


# Gendered Design in STEAM Bulletin | Interview transcripts | Part 2



INTERVIEW TRANSCRIPTS | Sector Experts (SE) &  
Regional Experts (RE)



GENDERED  
DESIGN IN  
STEAM

## List of interviews

**Adam Weiss** | Assistant Professor, Transportation Engineering, Civil and Environmental Engineering, Sector Expert projects ID17 and ID74

**Adrian Chan** | Professor, Systems and Computer Engineering, Director, Research and Education in Accessibility, Design, and Innovation (READi), Sector Expert projects ID91 and IDA

**Burak Gunay** | Professor, Civil and Environmental Engineering, Building Performance Research Centre (BPRC), Sector Expert projects ID40, ID73 and ID88

**Fred Afagh** | Professor, Mechanical and Aerospace Engineering, Sector Expert projects ID65 and ID71

**Katie Bonier** | Associate Professor, Architecture and Urbanism, co-director of the Carleton Urban Research Lab, Global Water Institute, Sector Expert projects ID37 and ID41

**Tracey Lauriault** | Associate Professor, Critical Media and Big Data, Journalism and Communication, Sector Expert projects ID38 and ID50

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**Raquel Noronha** | Regional Expert | Latin America

**Yoko Akama** | Regional Expert | Asia

*These interviews were collected as part of the research project 'Gendered Design in STEAM in Low and Middle Income Countries'. The project was cleared for ethics (protocol #115041) by Carleton University Research Ethics Board-B (CUREB-B) that is constituted and operates with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2).*



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## Interview transcript

Interviewee:

Adam Weiss | Assistant Professor, Transportation Engineering, Civil and Environmental Engineering, Sector Expert projects ID17 and ID74  
Carleton University

Interviewer:

Dominique Marshall | GDS Principal Investigator  
Carleton University

Date of interview:

27 July 2022

Transcribed by:

Way With Words

## Adam Weiss - Sector Expert projects ID17 and ID74

**Speaker Key:**

DM Dominique Marshall

AW Adam Weiss

Time code	Speaker	Text
00:00:00	DM	Good afternoon, Adam Weiss. It's 27 <sup>th</sup> July 2022, and I'm conducting the conversation with you as a final reflection on your role in the gender design programme. And I'm going to ask a very general question at first, and then I'll come back to certain things that you would probably have mentioned, and ask you to dig in a little more.
00:00:25		So the very general thing that interests us is for you to tell us the story, however far back you want, and however you want, why do you want to tell it, of how you came to this project. What you did with it, and whatever you want to tell us about your involvement with the programme.
	AW	Okay. So I was actually, I believe, a late entry into the programme, so I came in, I think, at year two, actually.
00:00:57		So I've only really been part of the programme for a year or a year-and-a-half at this point. Originally, the sector expert for transportation was my colleague in environmental engineering, Amir Hakimi [?]. And he's an associate dean and has lots of work, and so I was asked to take his place. His research is on air quality and not necessarily transportation.
00:01:29		And he was the sector expert for, I believe, these two transportation projects that I took over for him. And so, yes, I got an email from... I can't even remember who it was, asked if I might be interested. It might have been Amir, actually, who had emailed me. And I said sure. I'm new faculty. I'm looking for opportunities for interesting research projects and collaboration and these sorts of things.
00:01:57		And so, I jumped on that opportunity. And so, I met with Carrie, and I'm going to bungle his name, I think. What's his name, Dominique? Oh, you're muted. Sorry.
	DM	Sorry about that. Bjarke.
	AW	Bjarke. That's right.

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	DM	The design engineer and Carrie's administrator.
00:02:31	AW	Exactly. So I met with both of them. Got an overview of the programme. And was told that I could give an RA-ship for the programme to a student, which was a useful thing for me as far as recruiting students was. They get to do a little bit of more interesting research work, get a little bit of extra RA funding. So all of these good things.
00:02:55		And so, as for the two projects that I was involved with, there were, as I said, two of them. The first was looking at mobility issues around gender in Rwanda, and then the second one was looking at similar things, I believe, in Turkey. And so, when I had jumped into the projects, they were both at very different stages.
00:03:27		So the project in Turkey was basically done, is my understanding. They'd conducted their interviews with designers. They'd narrowed in and found a very specific focused thing at, I believe, safety at bus stops. And so, for me, my research area and research interests are very focused on behavioural modelling. A little bit less so focused on design aspects.
00:03:57		It's a lot of policy and planning type work. And so, that project in Turkey, I was a little bit less interested in. It was still transportation related, so I maybe suggested some journals for them to look into. But there was maybe not as great a fit there. And then, for the project in Rwanda, they were still designing the survey tool that they were going to use, designing the analysis that they were planning to do.
00:04:29		And so, I met with them and had a longer conversation about what specific tools we use in travel surveys and transportation surveys, as well as what sort of potential analysis they could do once they had their data. And generally, felt pretty excited about the idea of okay, maybe they'll share that data with me.
00:04:58		And my research group can also do some analysis with that data. That didn't end up really happening, unfortunately. I met with them once and was maybe looking for more opportunities for collaboration, but it didn't really go that way. I haven't had any further contact with them or further opportunities for collaboration. But initially, there was some excitement there for that, for sure. You're muted, Dominique.

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00:05:30	DM	Again, I'm muted. Thank you. Thank you for this. So let's go, then, back to some of the things of what you've said. So you said that was opportunities for collaboration and you were interested in this. And it fitted, especially the Rwanda one, which you're doing. So for the year end, so that you've had relations with these two projects.
00:06:00		For your own profession, you're an engineer, you do transportation surveys. To look at what they were doing, did it confirm what you thought about how your profession operates? Does it make you ask some questions about your profession? Because maybe I can add that these are also meant to be interdisciplinary. So how does your profession connect with other disciplines?
00:06:29		How do you see this? Has this interaction confirmed what you think, changed what you think, enrich what you think?
	AW	Yes, it's a good question. I like you mentioned that it's supposed to be interdisciplinary, and I think that the type of work that I do in transportation engineering is generally quite interdisciplinary. We tend to collaborate a lot with people on geography, in urban planning.
00:06:58		And so, the type of work that we do is typically very similar to the work that's done in those fields. And so, yes, looking at both projects, and maybe I'll start with the project in Turkey. Because that one was, again, much different from the type of work that I typically do. That project was, like I said, quite different from the typical sort of planning analysis work. I believe they were looking at really making sure that a particular aspect of the transportation system, I can't remember if it was the bus stop or the actual bus itself, was designed in a way that was going to improve safety.
00:07:39		And so, safety analysis and feeling safe, that's something that we're very aware of is going to improve peoples' livelihood or increase peoples' livelihood of travelling by that particular mode, or making that particular choice.
00:07:56		A person's not going to feel safe. They're going to be much, much less likely to make that choice. And so, that's something that's very well established from a behavioural aspect. And so, generally, if I was doing analysis on that type of work, it would be well, okay, they don't feel safe, and so that's reducing their chance of taking transit. And we want them to take transit, and

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		get them out of the car, and all of this. And so, yes, it was very interesting to look at how you would then go about improving safety.
00:08:30		Because generally, what I would do is I would say okay, well, safety's a concern at a very high policy level. What are some possible solutions to improve safety and encourage people to get onto the bus, or onto the train, or what have you? And then, for them to go into those specifics of how do we improve the specific safety at bus stops or on buses or what have you.
00:09:01		It's really the next step from the type of work that I would do. I would do some analysis that says okay, well, safety's a concern. And then, the work that they're doing is addressing that much more directly. So for the Rwanda project, my understanding there was it was much more raw. They were looking at how gender influences travel behaviour and travel choice in Kigali City, I think is the name of the city where they're doing their study.
00:09:37		And so, that's much more in line with the type of work that I do. It's looking at travel behaviour, differences in mobility patterns, these sorts of things. And so, typically, when we're estimating a model of travel behaviour, what we'll include is a variable for the gender of the person that's making travel.
00:10:02		And it's very, very common that we do that. And generally, what we see is that, assuming the individual's living in a household that has traditional gender roles, the woman's actually more likely to take transit. And that creates, potentially, problems, and all these sorts of things.
00:10:28		And that's because traditional gender roles, the man is the bread winner and owns the car. And therefore, gets the car. Whereas the woman, if it's a single-car household, is more likely to not. And there are studies that I've done, actually, that have confirmed this. And so, yes, I don't believe anyone on that study from Rwanda was a transportation engineer, in the way that I am. That's my understanding.
00:10:59		And so, it's interesting to look and see that, again, confirming my suspicions. Again, people in geography, people in urban planning, they do tend to do very similar work to us, as transportation engineers. But again, the group in Rwanda, they're doing a very similar study to the sort of stuff that we do in transport engineering and planning.

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	DM	Interesting. I'm thinking, so when you talked to Rwanda, did you ask them about the engineers in the university?
00:11:29	AW	I didn't.
	DM	[Overtalking].
	AW	Maybe I should have.
	DM	It's a funny thing, because for me, what you describe as your job is not engineering. So it's funny, but I'm completely not [unclear] there.
	AW	I don't consider myself to be a traditional engineer, in the way that I'm not building bridges or skyscrapers or anything like that.
00:11:59		That's not the type of work that I do.
	DM	And also, so maybe my prejudices fit a way of thinking about engineering, which is more traditional. And it's very nice to see you're not an engineer, but I'm thinking great, that fits engineering. It's not like [overtalking]. I think it's hopeful for engineering. But it would be interesting to have this conversation, to ask them, now you've done that. Which, in your world, fits.
00:12:29		Can be in a school of engineering. But maybe in their world, it counts [inaudible] best for that. It would be interesting.
	AW	Yes. And so, it's a good question. I will say that in my very specific sub-area of transportation engineering, which is a very specific sub-area of civil engineering, you get a mixture of people that are the leaders, academically.
00:12:57		So you do get a number of transportation engineers. A lot of them are leaders in the specific type of work that I do. You also get a number of people with a business background. So I know there's, recently, a high-end researcher at EVC, that's in the business school. And then, like I said, you also get people in geography, people in urban planning, as well.
00:13:27	DM	So now, we've spoken about professionalism and the profession and interdisciplinary. The next thing, and you just touched on this when you were saying that you would do policy more, and the Turkey people were at a level which, usually, it's a next level for you. But it's not what you do. As my next



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		question, it's about the relationship with the community, small or large, that the group was serving.
00:13:57		So you've already said ideal, as in larger idea of community, like the policy for the bigger number, if I understand you well. And they seem to be dealing with a smaller community and maybe a smaller level of authority, if and when they bring their recommendations somewhere. Could you talk about how you saw their relationship with their community? And with your own eye, about your relationship with your own communities that you serve.
	AW	Sorry, maybe I can ask a follow-up question for this.
00:14:29		When you're talking about community, are you talking about the research community?
	DM	No. The community that they serve, like the people who they serve, or they work with on the ground.
	AW	So who's being impacted by the project? Okay.
	DM	Yes. Or who's being researched, yes.
	AW	What, maybe, I will say about this is issues around equity and mobility justice are really very much emerging and becoming more and more important in the research world.
00:15:08		And I think both of the projects were very much focused on that. And there is this emerging interest in that. And so, improving safety on transportation benefits everybody. It's not just that it's benefiting women.
00:15:32		It's going to benefit everyone. And again, you mentioned in the question that I'm looking at big-picture policy stuff, and they're very focused on the specific transit lines or transit stops or buses or what have you. And yes, I don't think that the gap there is actually that far.
00:15:59		You're very much looking at how are we going to improve the quality of the transportation service and the transportation system. And so, me looking at it from a big, macro level lens, there are improvements that you can make at the macro level. And there are improvements you can make at the micro level. So the fact that they're looking at the micro level, trying to improve that very specific aspect of the transportation system, that's great.

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00:16:28		It's really, really beneficial. And like I said, doesn't just benefit the target in this case, which is women. But it benefits everybody, because a safer transportation system's going to be more attractive to everyone.
	DM	And then, if you think, still on that theme of community, that the means to reach that community. But also, the ways by which they those the community they would research. All this is very important in research.
00:16:59		Anything you want to reflect on, on this? The [unclear] with the questionnaire, and the community they decided to review. In the case of Turkey, they went to the bus station. And in Rwanda, I think they did it through an association, but I don't remember well. And then, you probably have ways, also, to poll people or research people's habits. So do you reflect on all this?
	AW	Interesting, yes.
00:17:29		So generally, when I'm conducting a travel survey or a transportation survey, because I'm estimating a statistical model, I need an unbiased sample of the population that I'm interested in. And so, the way that I'll generally go about doing that is I'll contact a market research company and pay them to bring in responses for me. And then, I have a web survey that I'll design and develop, or my students will design and develop.
00:18:00		And we'll send that out and get our responses, and then estimate our models. When it comes to the project in Turkey, my understanding, again, and I'm running off of memory here, so maybe I've got some of the details not quite right, but they had run focus groups. And so, focus groups, you get more in-depth detail.
00:18:31		Again, I'm not an expert on running focus groups. So my understanding here, again, is a little bit fuzzy. You get more in-depth detail. You're not necessarily getting as large a sample, or as, potentially, representative a sample. But you're getting much more very specific detail about what the concerns are of respondents in the focus group. The other thing the group in Turkey did, if I'm remembering correctly, is that they hired a bunch of industrial designers, I think it was, to really take the input that they got from these focus groups.
00:19:06		And come up with potential solutions. And work on the design [unclear], I think was what it was. And so, very, very different, in terms of approach, from the type of thing that I do. As much as

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		the end objective that you're looking for, from the project and the analysis that you're doing, it's the same.
00:19:34		You want to improve the transportation system. The approach that you go about to get there is very different. Worlds apart, almost. You're still out, interviewing people, asking them questions. But the type of analysis you're doing with that data, and the approach that you use to get there, is totally different.
00:19:56		If you asked the group in Turkey to do the type of work that I would do, I think they'd be totally lost. And if I was asked to do the type of work that they're doing, it would not necessarily go as well as the work that they did. For the Rwanda project, and again, I'm going off of memory here. They were interviewing travellers, but they were also interviewing, again, if my memory serves, service providers.
00:20:36		To try and understand what the service provider's view on mobility issues and mobility issues around gender are. So again, I've seen that sort of work done before. It's not necessarily the type of work that I do, but I've seen it done. And I think it's actually really interesting, and a good way of tackling that problem.
00:21:00		Ultimately, when you look at the transportation system, it's a big integrated part of the larger urban system. And changes to the urban system are often done through a political lens. So if you want to make a change to the transportation system, there's going to be politics involved. And so, having an understanding of how the decision makers work within that context is something that's really important to understand.
00:21:30		The other side, of course, is understanding how the users operate, and how the users will respond to change. Because if you were going to make a change, you want to make that a change for the better. And better for the users, really. And so, yes, I like that idea of tackling the problem of how to improve the transportation system through the lens of the operators. And again, I believe that's what the Rwanda group did.
00:21:57		I'm going off of memory here, so I can't quite remember. But assuming that's what they did, it makes a lot of sense. Again, outside of the scope of what I normally do, but it's very reasonable.
	DM	So you remember I've just asked you, you could maybe ask the Rwanda people if they could work with engineers like you and

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		the engineer place. I could ask you the same question. Are you actually working yourself with the equivalent of the Rwanda people here?
00:22:27		Or are you reading their stuff? Or are you thinking maybe I should try, also, to include a collaboration with a group who does something like that in the cities where I do my own surveys? Or you know they exist, and they use your work, and you use theirs. But you don't work together.
	AW	Yes. There's a certain amount of collaboration that occurs from a policy perspective to the actual decision makers. Typically, outside of an academic context, what will happen is the city or the province will have engineers that work for them.
00:23:06		That will create policy briefs that get distilled down into key talking points, that get put on the desk of the councillor, the deputy minister, whoever. And that informs the policy decision that that particular decision maker makes.
00:23:27		And so, as a researcher or an academic, I'm building up and advancing the methods that are used to do that policy analysis. Presenting my own policy analysis and academic journals, and these sorts of things. What the Rwanda group did, and again, I think I'm remembering this correctly, is they actually interviewed the policy analysis, or the team leads from the policy analysis side, about how they choose their operations.
00:24:05		Can you correct me if I'm misremembering about this, Dominique?
	DM	First of all, I made a mistake, because I confused Turkey. I've interviewed both [unclear], and I mixed up. Turkey did not go in the bus station. Rwanda did. So you remembered that well. When I interviewed them, Rwanda had not spoken to policy makers, but they were about to. So I think you're remembering well.
00:24:29		And they are about to produce a final report. And that final report will come your way.
	AW	I've got it open now, I think. Carrie had sent it to me.
	DM	Good. So eventually, you'll be able to read that properly. When you do read it, if you have further comments on this, please send them my way as well, or send them Carrie's way. Actually, you have an opportunity to write about it.

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00:24:58		And that will also be part of what we harvest from the research. So do it out of your memory now. Because my memory is that they were about to do this, but I haven't read the report yet. So let's do as if they did it, and [overtalking] there is more stuff that comes to your mind after you read what they actually did, please write them in your comments when Carrie has a way to harvest that as well.
	AW	Okay. Perfect. Yes, I can certainly do that.
00:25:30	DM	Interview of policy makers.
	AW	Yes. The actual interviewing of policy makers, it's a tricky thing. I question, almost, a little bit how much value you get out of that. When it comes to actually making these decisions, there's so many factors that go into it. So it's not just the analysis that someone like me, with my sort of skillset or background, puts into it. There's also they've got to be worried about well, how is this going to affect my constituents?
00:25:59		How is this going to follow my political leanings or the party line or what have you? And so, it's a tricky thing to look at, interviewing the actual decision makers in terms of how they view these issues. Because you want to understand the process, sure.
00:28:28		Yes, I almost wonder what's the actual benefit. Are you going to be able to change how they make decisions? I question a little bit, because there are all these competing influences on that decision making process.
	DM	Yes. So maybe when you read how they did it, you could carry on seeing if [inaudible] are convincing on it, because me talking, just for [unclear], we don't have much time. But there's a whole discipline of this kind of anthropology of political institutions, which is really interesting.
00:27:01		Why they actually might study, say, women in the UN. And how they manage funds, and all that. With all that you're talking about, how do they work? So they actually document that complexity. But [unclear]. So next thing, which, again, you touched a bit on, because you said when you saw that Turkey hired designers to actually take that stuff in, and turn out some policy proposals.
00:27:32		So a big trust of this programme, which was given to us, that was not our making, but that's what we bought into, and that's

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		how they fund us, really, is the use of design. The use of design as a glue or a way of thinking that might further the inclusion of gender considerations in STEM [?]. There was a real faith in IDRC funders that it was a worthwhile thing to explore.
00:28:04		So that's why they went for Bjarke, who had experience with design in the global [unclear]. And they went for me, who had worked with designers in the history of disability. So what I would like you to talk about now is about design, and making, and prototyping, and all what that programme was doing. And case studies, like this discipline of design.
00:28:29		And what you see it doing, and where you stand. What does it look like? The user you find in the project, and even in the programme. In our relationships with these 20 projects, and for you, for these two, and between ourselves, as well, at [overtalking].
	AW	Yes. So design, and I think I have mentioned this already, but design is really very much a next step, after the type of work I do.
00:28:57		I'll make very high level policy recommendations that get transformed and distilled into very specific points that then get integrated into actual decisions, that then get implemented as design. And so, I'm, personally, to a certain extent, quite removed from the actual design process. Physical prototypes are very much not the type of work I do. I sit in front of a computer and write code all day, for the most part.
00:29:27		So it's a difficult question for me to answer and think about, because it is so different from the type of work that I do. It's not something that I have a huge amount of experience with, or work with directly.
	DM	That's interesting, because the other thing is what Bjarke would tell you, and Kiara [?], the other designer in the middle.
00:30:01		Is that what you do, trying to find better ways to model transportation in design.
	AW	I do do model design, for sure. But I'm coming up with these very esoteric, statistical error terms and the behavioural model, and introducing correlation between them using complex statistical techniques.

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00:30:34		Yes, it's design in the context that yes, I'm building advanced models or applying and building these models for unique applications. And then, using that to inform, again, high level policy decisions.
00:30:57	DM	So if I hear what you said earlier well, when you approach these market research people, you do not design the questions. You design the models to analyse the questions. Am I right?
	AW	So we build the survey itself, as well, for sure. And there is a theory behind how you build surveys. And there's best practice, and all these sorts of things. But really, the question is how do you get to work?
00:31:31		I'm not reinventing the wheel about how I ask that. I'll say well, how do you get to work? Do you drive? Do you take the bus? Do you bike? Do you walk? Do you get dropped off? So on, and so forth. And so, the design there, it's limited.
00:31:58		I wouldn't consider that to be design. But there are aspects of the actual survey building that have a little bit more of a design component to it, for sure. Where we're trying to optimise how we actually ask questions, to minimise respondent fatigue, so that we get a higher response rate. All of that sort of stuff. And so, in that sense, yes, I suppose there's a design aspect within the actual surveys.
00:32:29		There's also a design aspect in actually picking which model structure you want to use, and building the model up from that, and picking which variables to include, and all of these sorts of things. But again, very different from the actual industrial design work on going into a bus, or a bus stop, or what have you, and figuring out well, what can we add or change or improve to make this more safe?
00:32:57	DM	So now, I'll ask you a gender question. So you said gender's part of our usual survey. Are you this or that? And then, this is one of your variables that you organise. So the programme was about gender and design, it seems. So tell me where you start with your understanding of gender. What this programme does, from where you stand. What you've observed. The question of gender in all that.
00:33:28	AW	Yes. It's an interesting question. Like I said, typically, when I'm building a model, I will include a variable for the gender of the



Time code	Speaker	Text
		responder. And if they are male or female, whatever else they are. So typically, we'll have a reference of male.
00:34:01		And we'll have a, what we call, dummy variable, so a one or a zero, for if they are female. And then, the reference would be male or other. And yes, we'll include that. So, say we're doing a model to determine mode choice, what travel mode a person takes to get to work, we'll include that variable in all of the choices, more or less.
00:34:28		Following statistical rules and all of these sorts of things. And we'll determine whether or not gender has an impact on whether or not that person chooses to take transit or chooses to drive or what have you. And so, yes, generally, what we find is that there is an impact [unclear]. So things like vehicle allocation will depend on gender. So we'll see, again, if you've got a two-person household where one of the individuals is a man, and the other is a woman, and they've only got one car.
00:35:03		Statistically, it's potentially more likely that the man gets the car, and the woman doesn't, for the trip that they're making. And so, that's typically about the extent that we go to in the modelling work that we do in my specific field.
	DM	And do you feel, Adam, when you think about man and woman and other identities, do you also try to link it to other variables?
00:35:35		Like, age and income. And what do you think about this? And what did you observe in Rwanda, Turkey, or didn't, about all that?
	AW	So again, it's tough for me to give specifics. I've only just gotten the Rwanda report. I don't think I've gotten the report for Turkey yet, to look at what their analysis is.
00:35:59		What I will say is that in my research specifically, what we tend to find is that there's a certain amount of inequity around, both, mobility to all locations. So that's things like who gets the car, and then household task allocations. So things like who's dropping off or picking up the kids from day care.
00:36:28		So what you'll generally see is that if the task is allocated to the woman, so who's dropping off or picking up the kids from day care, they'll also get the mobility. They'll get the car, because they've got this extra task they've got to do. And this is not always true, necessarily, but it's generally fairly true.



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	DM	What about rich and poor people? Do you do anything with that, [overtalking] income?
	AW	Yes. Income is often a tricky variable to get, because people don't like to share their income.
00:37:00		So we've done some stuff with that. What I will say is that as your income goes higher, you tend to own more vehicles. And so, this question of who's getting the vehicle starts to fall away, because you've got a household that's auto sufficient. They're not auto deficient. You still probably, in all likelihood, have that household task allocation problem, where it's inequitable.
00:37:30		Where if you're a woman, you're more likely to be allocated household tasks. So things like grocery shopping, these sorts of things, will often also fall to the women rather than the man, I believe. So I've done a very specific study, looking at day care drop-off and pick-up allocation, where [unclear]. And that's, again, very traditional gender roles of the woman is responsible for childcare and child rearing.
00:38:02		And the man is the bread winner. So I shouldn't necessarily say that I'm sure that woman are more likely to be given these maintenance tasks. I know there are some studies that have looked at this. I'd have to go and double check. But I would assume so.
	DM	And so, when you think, also, gender, you can think families. So do you think generations like old people, children, teenagers, young adults, do these considerations enter in your ideas of transport?
00:38:34		And maybe, what did you already see in Rwanda, Turkey?
	AW	I do know that there is a gender consideration around young people, teenagers, where you're more likely, if you're a young woman, to be escorted by your parents for trips to school, say.
00:39:00		But you're also potentially more likely to be allocated a vehicle, because young men are maybe more prone to risky driving behaviour. And so, I do have a study that's looked at that. That issue around travel escort behaviour for young women, it does mirror the challenges that the Turkey group looked at around safety.
00:39:32		Safety, being this big concern. The reason, we assume, and we don't know for sure, we're inferring, but the reason we assume

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		that young women are being escorted by their parents for their trip to school is because they're concerned it's about safety. And so, safety in transportation, it seems like it's a big issue. And I believe both the projects in Rwanda and in Turkey have looked at that.
00:40:01		And so, yes, both projects seem to have hit the nail on the head, so to speak, as far as what are the big issues in transportation when it comes to gender.
	DM	Okay. Now, we have ten minutes left, and there are two things I want to talk about. I'll tell you, and then you can navigate all that the way you want. The first thing is about at Carlton [?], when we accepted to manage this funding project, we asked what's in it for us?
00:40:31		What's in it for us? Partly, it was training graduate students and initiating them to some kind of networking with groups in the south. So you had one RAS [?] attached to you, and I'd like to hear about this. And I saw you together, two weeks ago. And the other thing is way, way more general. It's more of a dreaming question.
00:40:55		We have no idea and no specific wish about how to continue this project when it finishes. It finishes in December. And it might just finish, and we have some nice ways to display and archive the findings. And we might all go our separate way, and that's over, for that programme. Or we might dream of sequels, mini sequels, big sequels. Just dream away with us as well. So talk about training and dreaming.
00:41:31	AW	Okay. I will say, from a training perspective, that maybe a little more challenging. I'm not sure if Deane, the RA that I was working with, got as much out of the programme as either of us would have necessarily liked. I think I mentioned right off the top, one of the things that's appealing about this was that there would be an RA statement for her.
00:41:59		And she'd get a little bit of extra funding. She's an international master's student, and so funding's quite tight for her. And so, this was a little bit of an extra funding opportunity for her that was going to potentially appeal to her and bring her in to come and work with me. And so, that was great. And, I think, had the desired effect. As far as the actual work that she did, it's not her main thesis, obviously.

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00:42:33		It wasn't something that her and I talked about all that frequently, to be perfectly honest. So I'm not entirely sure what exactly she got out of it, other than the RA funding. Yes, it's tough for me to comment any further than that.
	DM	What about the dreaming question?
00:42:58	AW	Yes. One of the things that, again, appealed to me initially when I was brought into the project was this idea of okay, well, there's potential for collaboration. And so, the project in Turkey, like I said, not really, I think, huge amounts of opportunities there for me, anyway, to keep working with that group. The group in Rwanda, however, I think there's much more potential interest for future collaboration or work.
00:43:30		So I'd be very interested in working with them on future travel surveys or travel studies, future analysis of the data that they've collected. Potentially, publishing this paper or a paper from this work or a paper from other work, based on future studies with them. I think that would be excellent.
00:43:57		I'd be over the moon about that.
	DM	That's great. You can do all that by yourself. Write to them when the programme's over and say hi, I'm here, you're there. Let's work together. Do you think that the programme, there would be things that we could do at this end, or we could ask IDRC to do, which would help you do this in a better way? Or encourage it, or support, or do something with that.
00:44:32	AW	Yes. It's a good question. I'm going to be honest, I'm not sure if my dream of future collaboration with that group is actually going to happen. I certainly could reach out and ask, but I have a lot on my plate.
	DM	[Overtalking], but yes.
	AW	Yes. So if the opportunity presented itself and came about more naturally, yes, absolutely.
00:44:59		I would consider it, at the very least. But I'm not necessarily going to go out and pursue it any further. So yes, I almost wonder if there could be something done to encourage that. What exactly that would look like, I'm not entirely sure.

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	DM	But one of the things they're thinking about at IDRC, because we went to see them once.
00:45:30		I had done most, and a few colleagues have done others. But we have a bank of 20 interviews with the PIs. And they had a dreaming question at the end. And one of the things IDRC does in other contexts, because they're a huge operation, is actually publishing funds. So say, within this programme, at the end, maybe, it's the same thing. They're considering launch a little support for publications. So say, you and these guys could apply, and say we are interested in writing a paper together.
00:46:04		And that would give you a small grant to make sure that this happens. And I like that thing, because it's open. If you don't want to apply, you don't apply. But at least you're free to do it. But at the same time, you have a privileged access to a bit of money to make sure that this will arrive. And it might just give people a little extra incentive to actually do that extra step.
00:46:32		And it's also signalled that IDRC would like this to happen. And one of the things it does, which, in general, is bothering a lot of researchers in this domain and in others, like I work on refugees as well, is the inequality in the publishing world. So fostering partnerships where it's not a person from the north looking at the south, and publishing in a northern journal.
00:47:04		But the co-production of something which is done on an equal basis, which also gives access, and also brings researchers from the south to publish a northern journal. That's a huge thing for people who are thinking of more equity in the research world.
00:47:28		So that would also be part of their general idea of fostering more visibility from southern researchers in, actually, in that case, work about themselves. The way you're talking, it would fit, because it's not like Adam, you have to publish. It's like I'm here, we encourage this. Maybe they're very much, like I understand, the programme in the first place.
00:48:00		These ladies in Rwanda were not even doing research before. They were ladies who were touring high schools. They are scientists, but they were touring high schools to promote science among girls. And then, they said well, if we were to do a research project, because they saw the call, what would we do to demonstrate that it's important to include consideration of genders in our work?

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00:48:27		Not only to attract girls to our work, but to actually do a kind of science that includes considerations of gender more actively. And they said transport, and they went straight for transport. They thought that that would be a very meaningful domain to demonstrate that it's not only that we want more girls in our disciplines. It's that that actually makes for a discipline that is addressing questions that are not necessarily addressed otherwise.
	AW	I agree entirely about this idea of inequity in publishing.
00:49:00		Anecdotally, we have a family friend that's a senior professor at SFU. And he's told me [unclear] journals, we'll look at the name of the institution. And if they don't recognise it, then it almost immediately goes to the reject pile. I struggle a little bit with this, because I'm more familiar with the work in Rwanda.
00:49:33		And I've got the report open, and I'm skimming through it. The work they've done is probably publishable in a reasonably high end western or northern journal. They've done good work, it looks like. If you look at the work on merit alone, they don't need me to provide input.
00:50:00		The work they've done is good. It's tangentially related to the type of work that I do. It's not exactly the same, but it's similar enough.
	DM	But before you even think about this, I'm just thinking maybe that's it, it won't work. But it is one way. So now, you trust them, they trust you. Maybe you can work together. Maybe not.
00:50:28		Maybe there's not enough over that. But doing something together, on an overlapping thing, is a way to bring... Because it's [overtalking] meaningful. It's not artificial. You don't have to push things that are not real. And that's what that fund was, [unclear] a genuine, meaningful co-production of knowledge. [Overtalking].
	AW	I almost worry a little bit that it's not actually that.
00:50:58		My inclusion on any paper that they publish, because it looks quite competent, would be just having a token northern or western [overtalking] on the paper. And I don't necessarily want that at all.
	DM	No. Where that would be solved, maybe then the fund would be for them to apply, or to publish something on their own. Or the

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		fund might help in other cases, which we've seen. Say, in the future, in your case, you start a project.
00:51:34		And you take that team, and you do something together. Because now, you know that they do a part of this process, which is not the same as you, and you [inaudible], as I'm saying. So there are several possibilities [inaudible]. What I like about the publishing fund is just it gives people the freedom to do whatever next, without forcing anything meaningless.
00:51:58		I don't like this kind of we're going to restore equity in the research world by [overtalking]. And it sounds artificial.
	AW	For sure. And so, a publishing fund would be good. I don't know whether or not this would be possible or not, but a similar, maybe smaller funds, related to specific collaborations between, say, that team in Rwanda and myself. And then, we could do another project for [overtalking].
00:52:28	DM	Dream of something together, yes.
	AW	Yes, exactly. And then, that would ensure that equal footing.
	DM	Yes. Okay. I have to say goodbye. That has been very, very helpful.
	AW	Yes, it's my pleasure.
	DM	[Overtalking] time, and I'm just going to stop the recording here. Stop.



GENDERED  
DESIGN IN  
STEAM

## Interview transcript

Interviewee:

Adrian Chan | Professor, Systems and Computer Engineering,  
Director, Research and Education in Accessibility, Design, and  
Innovation (READi), Sector Expert projects ID91 and IDA  
Carleton University

Interviewer:

Dominique Marshall | GDS Principal Investigator  
Carleton University

Date of interview:

1 September 2022

Transcribed by:

Way With Words

## Adrian Chan - Sector Expert projects ID91 and IDA

**Speaker Key:**

DM Dominique Marshall

AC Adrian Chan

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00:00:00	DM	This is an interview with Adrian Chan. 1st September 2022. Thank you very much for doing this. The first and really largest question of this whole conversation is for you to tell us as wide as you wish and as far back as you wish, the history of your interest for this programme and the history of your interaction with this project. If you were to tell somebody who knew nothing about it, why on earth did you join this and what happened?
00:00:32	AC	Sure. I guess as some background, my expertise and my area of domain it's in engineering, specifically biomedical engineering. As part of my work, I do a lot in the area of accessibility. I would consider myself an ally and active in the area of equity, diversity and inclusion as well.
00:01:03		Which also includes things like women in engineering, advocating for a more inclusive society for people with disabilities. And then overarching that as well is just making research, both in terms of who participates in research and the research itself, more inclusive and equitable as well. This whole project fits along with that.
00:01:30		When we think about design, whether it be from an engineering perspective or not, has traditionally been male-focused and even focused perhaps on more cis-gendered, white males, I suppose. And excludes a number of individuals, including females, including people with disabilities.
00:01:59		This project, I thought was really good. It looked at design from a gendered lens. It also focused on the Global South, which has also been historically excluded in many ways as well and under-resourced. It aligns a lot with my own interests there.
00:02:27	DM	If you go upstream a little, even more upstream, is there anything in your own...? I'll start this way. This project is a natural for what you already do. It did not create the interest or trigger anything. It's for you to do more of what you do in a concrete project. But if you think backwards or retrospectively



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		on what brought you to be interested in these questions of equity, diversity and inclusion.
00:03:02		And these questions of gender in STEM [?], in particular. Are there moments in your practice or in your training or in when you're reading a newspaper or whatever that really were, lead you to be ready to invest some of your time in questions of gender in STEM?
	AC	Yes, it's interesting you ask that question because it's one of the things I've been thinking about.
00:03:32		Again, I do quite a bit of work in accessibility in the disability community. And I've also often gotten asked, why? Was it because you have a family member or a friend in that space? There wasn't a singular moment that triggered that, I guess. I would say the work in equity, diversity and inclusion stems from something that I think is natural.
00:04:00		I have four young kids. And probably when they're young, they know when things seem to be unfair or hurtful to others. I think it's a natural human response to things. In some ways it gets I guess taught out of us or some of us, unfortunately. But I think it's something that is fairly natural in the human experience.
00:04:25		And then I've always had an attraction to engineering because I like the discipline because it's a very problem-solving focused discipline. And that's what I love, it's solving problems. When people describe engineering, they often describe it as using scientific management principles to solve problems. But the part that is often missed is for the benefit of society. And that's the part that also resonates with me. It's like, I want to do things that are impactful.
00:05:00		I remember during my undergrad days, I went through core programmes. I was able to work at various different companies and did some really interesting work in various companies. But there were always certain times where I'm like, this is interesting and it's cool. But I really didn't understand to what end, I guess, except to create a product that perhaps creates something that's a cool experience for people. But I wasn't too sure what the impact of that was.
00:05:29		My background originally was computer engineering. Then I evolved from that to focus on biomedical engineering because that discipline has a more obvious impact. You're doing things that benefit medicine and biology. And the impact of the human

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		element was more direct there. And I would say that when we think about things like EDI, that as well has a direct impact.
00:05:57		That was a later expansion where it was my work and the things that are produced were hopefully impactful in a positive way to society. And then just through experience and talking with others in the space, just understanding that it's not just about what I produce, but the process by which we produce it. Who's involved with that process and how they're involved as well is also an important part.
00:06:30	DM	I'm taking notes here. Bear with me. This is a bit of a conversation. It's a funny interview to do because part of the reason IDRC asked me to join the team is because I was part of our common research project, CUDRG, which you created with Roy Haynes. I'm part of your story.
00:06:59		And what I remember, which you did not mention, and I don't know if it figures in this answer to this question is that, one of the things that was high on your mind when you created that research project is you wanted to gather stories on disability which would help you teach. There was something about you as a teacher, you as a student, you meeting a lot of people to whom you wanted to say stuff that you didn't have.
00:07:25		In that case, past stories of disability inventions or tinkering that you thought would enrich your teaching.
	AC	I think it's part of it. When I think back to my own education, I was not exposed to any of this. And when we think about issues like accessibility, I didn't learn that at all in my formal education.
00:08:03		When you think about accessibility, barriers are human designed. We design things that result in barriers and we can design things that are more accessible as well. But we need to ensure that our education includes that aspect of it. I always think it's like a parallel to sustainability. When we talked about years ago, sustainability wasn't part of what we learnt in design.
00:08:31		And today, going through an engineering programme, and if they don't talk about sustainability, people would be like, that's outrageous. But the same thing happens with accessibility, which is, we weren't taught accessibility. And in many cases, our students are still not taught about it or exposed to it. And that's ridiculous. There was two-folds to this.

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00:08:55		One is, I think the outputs of our collaboration with the CUDRG provides some content and ideas [?] that can help inform and be used in education, and build up that strength. Why I'm interested, of course, is that the engineering students that I teach, so they're exposed to it. And we're now ensuring that students, when they go through their programmes, get exposed to this so they learn about accessible and inclusive design.
00:09:30		But as well, I think it's also to just expose and celebrate some of the stories within Canada. Even through the work that we've done, there are some really interesting stories I didn't know about. And the contributions by disabled Canadians is phenomenal. And I think it's also good to ensure that those stories get out, that people know about it and they're celebrated as well.
00:10:00	DM	My question was also about, since you've entered the gender design programme, can you tell the story of your interaction with the programme? And everybody I've interviewed, I apologise for not having done a lot. We're not checking if you've done a lot or not. We're just checking about, not even checking, asking you, what happened since you've entered? How do you see what happened?
00:10:30	AC	With the kick-off of it and just getting the project proposals and reviewing the proposals and things like that, or what I would expect as the norm of what was anticipated. Unfortunate part is the pandemic hit as well, so that really caused a need, I guess, for the researchers themselves to have to adapt and figuring ways of how to adapt there.
00:11:02		I appreciated the opportunities to read reports of their updates and how they are adapting. And I was always, I don't know. In some ways, it was just impressive how they remain flexible and adaptive. I think part of it is showing the extraordinary resilience. And I think I learnt a lot from that as well where things are never easy.
00:11:28		But understanding how you can remain flexible and adaptive and focus on what is the goal objectives. It's like, I had this plan and I want to reach this destination, but given the circumstances things have to change. And just hearing how they've adapted to things and remained resilient got me personally to think about how I was adapting over these past couple of years.

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00:12:01		I had an opportunity to meet virtually with a few of the researchers where they provided an update of what they were doing. I'm trying to think if I've spent any time in the Global South. I don't think I have. I [unclear] to travel down there, so I'm not as familiar with the culture except for those who have moved to the Global North and I've been interacting with.
00:12:30		I thought it was helpful for me just to interact with people from a place and cultures that I've not interacted directly with. Again, it's impressive. They're not as well-resourced as we're up here in Canada, but they do incredible work. Their approaches are very similar to what we do.
00:13:00		And they're extraordinarily resourceful to get some impressive work done, like the fact that they are doing many similar approaches, like human-centred design approaches in solving very practical and impactful problems that are there. And my hope is that work, that they undertake. I just read one of the final reports, it's impressive work.
00:13:32		One of my feedbacks there was, because of lack of resources, maybe the amount of dissemination and reach of that work might be a bit more constrained. We have the opportunity to often travel to different international conferences and publish. And those things have barriers, both in terms of time and cost and things like that.
00:14:02		Without that, you don't necessarily have that reach to disseminate the work that's been done. But this work is impressive. And I can imagine the number of people would love to either replicate it or build upon it. It'd be nice to see this be widely disseminated and accessible to others.
00:14:30		I think you're on mute there.
	DM	I'll change the theme a bit, and something you've already talked a little about. These two projects you were working with, they had their own relationship with their own community. One of the ambition of IDRC by giving that to us is that we would send that to other universities who already had community relations and could work in the community.
00:14:58		A quick way to have community work done because it's other trusted relationships between universities and communities. Can you comment on their relationships with their own communities and what it means to you? Does it confirm what you're doing? Did you support with what you already know? Did

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		you learn something from them? Did they learn something from you, the academy-community engagement aspect of it all?
	AC	I've had the fortune of participating in a number of committees at Carleton on community engagement.
00:15:33		And from that, which includes the launch of our new Centre for Community Engagement as well. And it's just extraordinarily complex I think with community engagement when we talk about research or community-engaged pedagogy and things like that. There's a lot of parallels. What seems to make it successful is on-the-ground relationships.
00:16:05		The researchers have a good relationship with the community. And that's built over time, trust. The institution can facilitate that but it seems to be, I think right now people are trying to figure out what that means and how that looks like. But I think the fundamental part is the researchers themselves.
00:16:27		I think you can, just reading the proposals and then reading the work that's been done, it's a community that they've already been involved with, been working with. And then this is an opportunity to continue that work and expand upon it. When you look at the work and getting participants and have their time...
00:16:59		Especially again, [unclear] these past couple of years, I can imagine would have been extraordinarily difficult if there wasn't that relationship that had already existed. And one of the things I would just add is, as with everything, and they're doing innovative work, which is some of it's going to work out really well. And some of it's going to kind of work out or not working out, but you'll learn something from it.
00:17:27		And I think that's the other part that was important, is to have that trusting relationship. They talked about expectations. You're not promising that you're going to solve everything. You're promising that you're going to spend the time and effort to try. And you're going to make some progress and things like that. And sometimes you'll have wins and sometimes you'll just have learnings without a solution.
00:17:59		And I think that continued engagement in the face of I guess, I wouldn't call it necessarily failures, but just obvious leaps forward only lasts with good relationships.
	DM	One of the ambitions of that programme was also to see how to bring somebody who...

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00:18:28		To encourage the building of teams that were transdisciplinary, would help people who are in STEM disciplines address questions of gender. There were guidelines about how to put a team together. And then it's 20 experiments of sometimes new cross-fertilisations between disciplines. When you came to the programme, you had ideas about transdisciplinarity.
00:19:00		We've done that together in CUDRG. And the role that different disciplines from... I'm interested more with the arts and STEM, and how they can work together. And then there was this three years of this experiment. Anything that was reinforced in your understanding of this was learnt or you saw the other teams learning? Any comments on that?
00:19:28	AC	That part of it, it's hard for me to comment. I know that there was some work across disciplines. When I look at the teams and the work that they've done, it's not just STEM focused, but they looked at things quite holistically. What was not clear to me was how much of this was built from existing relationships. Because they seem to be operating quite well and the output seemed to be quite good in that respect.
00:19:56		But I think if there are new relationships or what have you, the parts that... My own experience of just learning about other disciplines and terminology and cultures and practices and stuff like that takes time, and you learn from it and expand your knowledge. But that really wasn't commented upon or exposed, I guess. It's hard for me to assess what that experience was.
	DM	It looks like, in your own understanding of transdisciplinarity, that experience is neutral.
00:20:31		It's not out of the ordinary or it's just part of your usual.
	AC	Yes. Whether this was new for them and what that experience was, how to take different disciplines and try to figure out that new normal and create the new discipline, I didn't really get a sense of what that experience was for them.
00:21:00	DM	And for you, it looked familiar? You do this work with arts and social science, and particularly in your relationships with the community, that looked familiar? There's nothing...
	AC	For sure, it looked familiar. And again, very helpful. Because I think if you just focus on the technical deliverables, you forget about a lot of the other parts of it.

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00:21:26		You see this, the work on prosthetics as an example, they talk about the prosthetics itself. Technically, it's good. But they talk about the things like social stigma and user acceptance and abandonment of prosthetics. Which is, you need to look at things, the holistic understanding. Otherwise, things aren't very impacting.
	DM	The other theme that we've talked about communities' transdisciplinarity, the other theme which is way up there in the programme is gender.
00:22:00		In the relationship between you and the team, the team themselves, the team and their community, these questions of gender, men, women, generations, families are everywhere. And we deliberately at the beginning kept the definition as open as we wish, because we wanted to be able to capture the different understandings of this notion. We didn't want to impose one.
00:22:30		Could you talk about the programme and your relationship to the programme and what you might have gathered or understood what's going on, on families, men, women, gender, all that?
	AC	See, I think when I looked at the projects, two main parts of it is, who the research is trying to serve and who is the research conducted by.
00:23:02		I guess were the two parts of it. I think both of it contributed to particular types of analyses like, why is this research important? What does that mean to the research participants in their communities in terms of social stigma or why such problems exist.
00:23:30		There's one on the impact on education. One that arises from causes of abuse and neglect and things like that. Understanding the stories of how do these issues arise and then how to create appropriate supports and solutions. I think it was good to think about it from that holistic experience as well.
00:24:02		Again, it's just human-centred design but with a specific lens I guess to it.
	DM	When you were looking at how these two projects that were Latin American, am I right, the two of them?



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	AC	Yes.
	DM	And the way that they were thinking about men, women, children, families. No surprise there. No saying, oh my God, this is really not the way we do it in Ottawa.
00:24:28		Or it's funny, it's the way that I've seen it in communities here. Oh, it's the way that researchers work with notion of genders. That you were quite familiar there.
	AC	Gender design isn't an expertise of mine. What I know of it aligns to what I saw. Again, part of it that I learnt probably from it was just the context which they were working with.
00:25:01		Again, I have not visited that area of the world. Just understanding what that culture is like. There seems to be a lot more inequities that still exists there. And some of it quite bad I guess sometimes.
00:25:26	DM	Other thing now, and there was one sentence in your story earlier which linked to that when you said engineers solve things. And I like to solve things. And then you added, for the benefit, the good of society. One of the important aspects of this programme was the idea that IDRC had, that was not us, that design might help.
00:25:29		Design thinking might help STEM teams think better about gender. Design as a way to work that through. Now you work with design people all the time. You're a co-director of READi, that is a designer. Design is not new to you. It's part of what you do. But I'd like you to comment on what you witness the part of designing this programme, what you saw.
00:26:28		Because then we also insisted that there were people who were doing design in these things. Can you comment on design in this programme?
	AC	The parts that I saw were trying to have an understanding of the context and the problems, and then providing solutions that serve the end user, rather than thinking about what as a designer what we want to do.
00:27:03		I think what I've heard more of was the experiences of the participants. Did they feel like they were part of the design? We talked about human-centred design is like a spectrum of that. You can do everything from consultations where you're just



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		talking to people, to co-creation where they're actively participating in it.
00:27:32		I would have liked to hear more about that experience with the participants of how they felt they were engaged in the process. Did they feel like they were part of the design or they felt like they're being consulted there? And then the other part that I would have liked to heard more about was on the output side of things.
00:27:57		When the final prototypes were designed and delivered and things like that, did they feel through the design process it created something that I thought was better and useful. And I can see my input shown in there. The other part of design, and this is just a time constraint, is that often it should be iterative. You do it again and again, you see those refinements. And hopefully, those are driven by user feedback.
00:28:31		But due to time constraint, you don't see a lot of that iteration there. Perhaps with time, you'll see that. I would like to hear about that as well. But that again takes more time.
	DM	Just to go back to the first thing you said you would have liked to see better how the communities who were a part of this thought of the project.
00:29:00		For the little you saw in the final reports that you've read and all that, do you have any trace or inkling of this? Do you detect some interesting things or it's pretty mute?
	AC	I found it pretty mute. It wasn't like they were doing surveys and investigating about that experiential part of it. They were focused on the products and things like that [?].
00:29:29	DM	There was a lot at the beginning, how you include. Do you survey the needs to do to your stuff, but not enough time to do the, is it the coming and going between to check...?
	AC	It's like the meta-analysis. Research the research itself kind of thing.
	DM	That's interesting, because I think there's 20 project loads and loads of data. I'm thinking rapidly here.
00:30:00		You've seen two. I've seen 20. There are bits and pieces that would be nice to piece together just what there is there that is already there. Sometimes even within the three years the

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		designers had time to do a bit more back and forth. And then also sometimes just by reading the reports and all that, we can see some feedback that just is there not even if it was not collected systematically.
00:30:30		Because of the number, there's more than you're saying. That's an interesting angle. Other theme is teaching and supervising. As you probably know, at the beginning when we accepted to do that, Biaki [?] and I, there was, what is in it for us? And we convinced the various deans to give some money.
00:31:00		Because we said that will be also an occasion to train research assistants or to involve research assistants in new networks and new kinds of works. You did supervise, is it one or two RAs?
	AC	Just one.
	DM	One whom I met. It's a nice lady. But you also more generally teach. I'm thinking, can you talk about this...? And you may have seen in the two teams, some interaction of these researchers with their own students.
00:31:32		Could you just speak about teaching?
	AC	I think part of it is just experience. With young researchers and emerging researchers, it's just having these types of opportunities. I think it was good for the RA that was looking [?] at interacting researchers in another country in a different context.
00:32:02		Because I think it exposes, like what I was saying before, you're not exposed to those kinds of cultures and stuff like that. You might have particular stereotypes or beliefs and things like that. And they might be in some ways humbling in that sense. Where you think I'm here to help so and so. But realise you're going to learn just as much [overtalking].
00:32:30		I think over time you see that reciprocal nature evolve as well. It's not a one-way service there. In a kind of interesting way, it's like other researchers. When we think about design and research and stuff like that, again, we're not just serving the participants, but we're also learning from them. It is a reciprocal relationship there. And I think it's very similar in that sense.
00:33:01		From a teaching perspective as well, I know I brought up this particular project multiple times when I talk about inclusive

Time code	Speaker	Text
		design as well. Just talking about ways of thinking about design. In my own courses, I would mention this project and what's been going on there and point to students on the website and stuff like that. If you're interested in learning more about it, take a look at this.
00:33:29		It was just good to show that there's these kinds of efforts that are there.
	DM	I don't know. You completely may not. But do you have any comments of how you saw Alicia learning or did she have any comment? Or is there anything specific you can say there or it's more these general things?
	AC	It's more these general things, I would say.
00:34:00	DM	Next thing is the future. This was supposed to last two years. Because of COVID, it lasted three. It's going to finish by summative events in October and a summative Bolton [?]. And there will be a website which will be jammed in time. And part of the Carleton website where the depository for public consumption, like easy to navigate of stuff that the programme has done.
00:34:33		Which is also designed so that the 20 projects can use that for strengthening their own practice there. And for each project, we'll do also one poster. We designed these things so that it's useful here. It's useful as the collective depository and it's also useful for projects to go further.
00:34:56		And we will deposit things like this conversation in a database. We've got the website and we've got this database. And after that, we didn't promise anything to IDRC. We've written one article together, which you've probably seen on transdisciplinarity. And that's end of our promise list. But at the same time, we're all thinking of possible sequels and very much in the spirit in which we, Kiara, Biaki and I coordinated this. We never really made decisions that were too firm.
00:35:32		We were always trying to answer the needs of the current month. We have no fixed idea of how this is going to carry on. We could have said, okay, we'll do a SSHRC application or we do a connection grant or we do another IDRC application or we suggest whatever. We will send a final report to IDRC. That's how they work. And in it, there are often the seeds of other IDRC projects.

Time code	Speaker	Text
00:36:00		This one really came out of other ones that are the recommendations. They take these things seriously. This last part of the conversation is really to ask you without constraints of means, really just a dreaming part, what is it if you had your say? And what's the kind of things that you think could be a follow-up to this project, either for you or for people you supported over there?
00:36:31		Or for the university or for IDRC or maybe thinking of another programme. Any idea of stuff that you think would be the best, most fruitful way to pull out some threads of this and suggest something to go further?
	AC	As we alluded to already, there seems to be a richness of information or data that's there that could be used in different ways.
00:37:05		When you span all the different projects and just do a meta-analysis and all that, you can probably start pulling out themes that seem to be common or unique or stand out amongst them. I think there's opportunities for that. For myself, I always think about other types of ways of collaboration.
00:37:30		Where we're taking people that didn't know each other and getting them to interact. And when you put large groups of people together, there can be new relationships and opportunities that get exposed there. And it's like ones that seem to be the most fruitful ones and ready to go, how do we facilitate that type of work, especially when we're talking about things that are cross-cultural.
00:38:00		Again, those types of work, just like interdisciplinary, transdisciplinary work, when you put people from disparate places together, interesting things happen because they're looking at things from a different perspective. If there are places where you can see these type of cross-cultural links, in that there's interest to explore that. And perhaps, maybe some of the projects have some overlap that could benefit each other.
00:38:32		Those were [inaudible] I think to see as well.
	DM	And in your particular case, I really am forcing, and I think there's absolutely nothing at the moment that springs to mind when you thought, oh, my God, that'd be a nice thing to do. Or maybe nothing concrete.

Time code	Speaker	Text
	AC	No, not really on my end.
	DM	That's totally fine. That's good. That's the end of my questions.
00:39:01		Is there anything else you would like to say about the programme in general that you thought about that might be useful?
	AC	No. Again, I thought it was good. I think there is an opportunity to use the experience more locally as well. There's some learnings and some things that should probably be disseminated locally in Carleton and built up, I think.
00:39:30		And perhaps in some ways, taking some of that and maybe thinking about how it could be implemented here at Carleton or more locally. When we think about design, there's a lot of designers at Carleton. How do we initiate a gendered lens on that as well? What's the benefits of it?
	DM	Okay, I'll stop the recording. And then I have other things to tell you within the last 15 minutes. Just a second.



GENDERED  
DESIGN IN  
STEAM

## Interview transcript

Interviewee:

Burak Gunay | Professor, Civil and Environmental Engineering,  
Building Performance Research Centre (BPRC), Sector Expert projects  
ID40, ID73 and ID88  
Carleton University

Interviewer:

Dominique Marshall | GDS Principal Investigator  
Carleton University

Date of interview:

1 September 2022

Transcribed by:

Way With Words

**Burak Gunay - Sector Expert projects ID40, ID73 and ID88****Speaker Key:**

DM Dominique Marshall

BG Burak Gunay

<b>Time code</b>	<b>Speaker</b>	<b>Text</b>
00:00:02	DM	We are the 1 <sup>st</sup> of September 2022. I am having a conversation with Burak Gunay, who is a sector expert in the Gender Design in STEAM project. Burak, the first question, which is the biggest and the widest, is for you to tell us, as wide and as far back and as far in the future as you want, why and how you have interacted with this programme?
00:00:38	BG	Why? I heard the opportunity to be involved and this was a while back. The first part is it would improve my EDI skills overall.
00:01:04		As a young faculty member, it would improve my CV as well, and helping the programme in building related areas, building and energy related areas, because there were projects in these areas that overlap with my expertise.
00:01:33		I thought I could basically spare some time to lend a hand. It was a win-win.
	DM	If you were to tell the story of how you came to it and the times over the last two and a half years, where somebody who doesn't know where your interest in all this comes from, and what happened over the last three years in your several interactions with the programme, how would you tell that story?
00:02:08	BG	It's been a while. It started a few years ago, before COVID. Actually, the department chair notified us that there's this programme. Our colleagues at the School of Industrial Design are leading it.
00:02:33		He said they're looking for someone with expertise in housing, specifically buildings and energy. I thought that overlaps with my area of expertise and then I reached out to Bjarki. That's basically how I joined the team. I participated in a few of the workshops before COVID.
00:03:07		At the very beginning I also had an RA helping me with this project. But obviously as time progressed, she graduated, and I

Time code	Speaker	Text
		didn't have that resource anymore. All in all, my role was basically, in essence, just meeting the team a few times here and there, the project teams.
00:03:35		Providing some feedback on their research project. But in all honesty, I don't think it was a lot. I don't think I did a lot.
	DM	We're not asking that anyway, if you did a lot or not, but just talk about what you did. If you were to think back to why you are interested in these questions of gender, besides saying it's good for EDI for my job...
00:04:03		Is there anything in your profession or in your projects you've done in the past that has alerted you to the meaning of questions of gender and design in STEM that brought you to think, oh, that would be an interesting thing to do?
00:04:28	BG	That interest comes from the fact that traditionally when I started my job, my focus was mainly on commercial buildings. It still is. Improving their environmental impact, improving their energy performance. But then as I keep collaborating with these larger companies, the more I realise that there's a bigger problem about housing and the building sector in general.
00:05:06		The way we structure research through partnerships with for profit companies blindsided me from the fact that there are community housing programmes and there are lots of people who could benefit from my expertise.
00:05:33		But they cannot necessarily afford to do that. So, that first sparked my interest in EDI related aspects of my professions. So how do I make sure that various underrepresented groups are adequately represented in building codes?
00:05:59		Because building codes are developed with very standard household archetypes or prototypes in mind, and that clearly excludes people suffering energy poverty, people with various discriminations along the process, various household types.
00:06:29		So that really was my first starting point on this perspective. I thought this project could be an opportunity for me to expand my knowledge broader. Sure, it says gender design but I think it's broader. It includes various aspects of EDI.
00:07:05	DM	I'm writing down what you're saying. I find it very interesting and I'm always worried that the recording won't work, which it never did not work. That's really interesting. I don't know what you do



Time code	Speaker	Text
		well. Do you actually participate in the making of building codes or do you watch it from a distance?
00:07:29	BG	The way the building codes are written, there's a Building Codes Committee and anyone can submit a change request. Ultimately, as a buildings researcher, all of us do research and somehow, we distil our research findings into code change requests. They are usually assessed and discussed in the Building Codes Committees.
00:07:59		That hopefully is adapted. Of course, it's a very long journey. It doesn't happen very quickly but that's really the process. Ultimately, you do research, you do publications, and all that information trickles down.
	DM	The same with me and history. I'm not in the business of policy change. It's very distant. My histories of social policies hopefully get somewhere, somehow, sometime in the mind of people.
00:08:35		You spoke very well on how these considerations inform your practice and how you went from a more private work for people who can afford it to thinking about how your expertise could be of use for people who cannot afford it straight.
00:08:58		At this time, because you're a young academic at this time of your practice, are you engaged in other projects that are doing the same thing, or where is GDS in that part of your explorations in your work?
	BG	In two different capacities. Recently, I had a New Frontiers funding application submitted, which really focusses on affordable housing programmes.
00:09:33		Trying to improve, really, the focal point is community housing and how do we ensure that the sections of the population that is typically disregarded in building codes. One example is building codes have housing archetypes that is just average floor area, 200 square metres.
00:10:07		Some homes the archetypes go up to 400 square metres. The homes are always occupied by four people, like two kids and two adults. But that isn't necessarily the case. So that is a research application by mining data sources.
00:10:33		How do we improve that element of the building code, and that's the planning application that is under review right now. In a way that's triggered by things that I've learned on this journey.

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		The second one is I'm also involved in a bigger project that is led by one of my colleagues.
00:11:01		I'm not entirely sure if you were involved or not. It's Liam O'Brien, in my department, so he was leading this major project on housing. I'm one of the co-leads in that project, one of the teams. I tried my best to really, certain elements of the things that I learned in this project is incorporated in the proposal development process.
00:11:34		So, I would say it hasn't really enacted in my research programme yet, but it will affect. The things that I learned in the GDS will start affecting my research. Sorry, Dominique, you're muted. Sorry, you're muted.
00:12:00	DM	Sorry about this. What I hear you say is that GDS for you happened at a moment where you were just starting to try to make this real. You had these ideas. GDS was there and then these two things came. But as far as concrete work is going, its early steps, and GDS was very early in your... That's what I wanted to know. That's really interesting.
00:12:28		I'm going to ask you, this as a historian speaking, to go further back in thinking what is it in your own training, in your own experience of built architecture, that makes you think that these things are important? Are there any moments in your training, in your practice, in your reading the newspaper, in that which traditions in your professional life have triggered this interest?
00:13:02		Because it's not any people in the Faculty of Engineering who actually got interested. Maybe you can. But are you able to point at things in the news and around you or in your training that made you think that they'd be important to do, to think further than the regular building code or the regular work that you've been doing in the private sector?
00:13:32	BG	Yes. A few examples come to my mind. Obviously, you're dealing with climate change and extreme weather events triggered by climate change. It's hard to imagine, but just in order of what we dealt with, four multiday power outages in the past five years, and that's very extreme.
00:13:59		Another example is the heatwaves that we are suffering out west. All these extremities. If you're living in a poorly constructed home, poorly maintained home, and if you end up suffering a power loss, your home's temperatures will drop rapidly to dangerous temperatures.

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00:14:31		Or during the heat stress it will just go up to extreme temperatures and it will put you at risk. An example of that is, I don't really know the exact number of people died, but it's more than 500 people in the last years, like heatwaves in BC.
00:14:58		99% of everyone who died, if you probe, they were indoors. They're usually elderly. Sometimes people with disabilities, who couldn't open their windows or step out as easily as others. Other examples, like the ice storm that people in Texas, I believe in 2020, suffered.
00:15:34		If you probe them, you release that most people who died during that extreme weather event are from black communities and marginalised communities in that region. In a way, building codes clearly disregarded the way these homes are built.
00:16:07		In fact, in a way putting these people in danger. At the same time, you don't have to go to such extremes. If you are living in a very uncomfortable home constantly, that will translate into your ability to be productive and to be living in a healthy environment, raising your kids in a healthy environment.
00:16:33		So, it actually translates. We don't have to wait until people die, and some people may not die, but they might suffer.
	DM	I understand what you're saying. This is the extreme of what makes you think about it. There's a day-to-day manifestation of the same questions. Very nice to hear.
00:16:58	BG	COVID came, for example, and working from home is a blessing if you're living in a large home with few people, but if you're in a crowded home, like your home schooling your kid and you're trying to cook, you're trying to work from home, and if you're living in a small poorly built home... Again, you can see where I'm taking it.
00:17:29	DM	Thanks. Thank you very much for this, so that was a big question. Now I'm going to go back in some ways and some things you've probably already said but ask you to dig up a little. There are four things. The first one is your profession. You're an engineer. What's your branch of engineering? Structural engineering?
	BG	No, building engineering. It's basically energy efficiency, indoor air quality and building performance in general.

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00:17:58	DM	So, building engineering. This programme, GDS, had the ambition, still has, it's not finished, but the ambition to be interdisciplinary, transdisciplinary. I'm asking you to reflect, and you've done elements of this already when you said that you're thinking about community housing project and you're part of a more interdisciplinary...
00:18:29		You're thinking about data research and all that. I'm thinking, this is your discipline, building engineering. Can you think about your own understanding of your own profession, building and engineering, what's this profession doing? What is your idea of your profession in this? The need to work with other professions.
00:18:58		The openness of your profession to other professions, that kind of stuff.
	BG	Broadly speaking, our field is quite interdisciplinary by nature. Unfortunately, when I say interdisciplinary in engineering, that means that you work with other engineers. It's mostly architects. My specific research area is also touching on how buildings are used and occupancy in the building.
00:19:35		How people generate indoor air contaminants or use various appliances and building components. Ultimately that has impacts on the building programme. There are lots of overlaps between human health related aspects.
00:20:01		It's a fairly open field for interdisciplinary research.
	DM	So, in a way, this programme is not exploring your idea of your profession. It's doing more of what your profession says it does. It's trying to make sense of people's ways of inhabiting a place by using all sorts of information.
	BG	That's correct.
00:20:30	DM	You're saying that you're collecting data already, like part of your job is not just to build stuff, but actually to do some research in order to build stuff. You do data mining you said.
	BG	Yes, I do. Again, I'm still in the process of expanding my research area mainly from commercial buildings to all types of buildings. Data analytics has been a big part of my research.
00:21:03		Because the fact that we build a building with something in mind but it might be used for something else and its real-life

Time code	Speaker	Text
		performance may differ greatly from what the architect had in mind 20, 30, 40 years ago. So, trying to understand how the building energy systems last and continue performing throughout its life, basically.
00:21:30	DM	Now I'm going to shift a little more. You work with two projects. Am I right? You work with...
	BG	40 and 73.
	DM	These two projects, in their ambition to explore or solve a problem of gender and STEM, they have their own relationship with the community, right?
00:21:58		Could you speak about how you saw them doing this and how you might have supported this and maybe conversely how you might have learned from that? This community engagement part.
	BG	It's been a while, what they have done. The project in Ghana...
	DM	You don't have to be that specific. Go for what you remember, which is what is interesting really, because that's what you carry.
00:22:33		So, the project with Ghana, this is the one about generators?
	BG	Yes, renewables. In both cases they had interviews with people that largely included females, which is good.
00:22:58		Like in the Ghana example, they had solar systems deployed, and many of them didn't have electricity at all.
	DM	So, their way of engaging in that case was to interview members of the community?
	BG	Interviewing members of the community but they were also providing solar systems.
00:23:30		Like in a few cases they had... They were collecting some physical information about what they had, their access to electricity, at least a reliable source of electricity.
	DM	The other one?
	BG	The other one was the Rwanda project.

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00:23:59		It was an interview-based study, revealing... They were looking at how the public places are designed in Rwanda and how they could incorporate women's perspective in it.
	DM	When you watch them do that, which is a bit of what you do, you collect data, you think about how things are built.
00:24:33		Were there ways by which you could support this and were there ways which made you think about your own practice, this kind of engagement with the community?
	BG	Interviews have always been a big part of my research. The way that I supported these projects were like...
00:25:00		I reviewed the methodology at an early stage. If I had some methodological concerns or question marks, I just expressed them in a couple of meetings, but that's really about it.
	DM	In a way, for you, it's workaday stuff. You do interviews. They do interviews. You do the same. You help each other. No, that's fine.
00:25:31		Now let's shift to the question of men and women and families and roles and gender, and think about the way you thought about these questions as you entered the programme and what you did about this in the programme. Again, same question, is it more of the same for you, you just did what you do well? Did that programme make you think that there were other ways to think about these questions?
00:26:04		Did you learn from the projects? Did you make your own understanding of questions of gender more explicit? Your interaction with all these questions of women, men, roles, families?
00:26:29	BG	Certainly, back in the day, like when I started it was just a couple of years after my start as a faculty member. My priorities were just to get as much research funding as possible from the industry and write papers and stuff. It clearly helped me appreciate, if I just continue doing that...
00:27:03		That means that I would be ignoring a huge segment of the building sector or housing sector in general. So that helped me come to that realisation. Luckily, the funding landscape has changed a bit since that. There is far more emphasis on having partnerships with public organisations.

Time code	Speaker	Text
00:27:32		Back in the day, again, when I first started, there were only opportunities to build partnership projects with private sector. Now we can work with Community Housing, or now we can work with CMHC and organisations that make policy that may benefit from your research expertise.
00:28:03		So, the timing was well aligned and it also helped me appreciate things changing in the right direction at the right time.
	DM	One of the things you said which I thought was interesting is you said, this project was about gender, but it was not only about gender, because how you understand gender starts taking you to other places.
00:28:30		Which is you could say is an expansive definition of gender and a very interesting one. Can you elaborate on this when you say gender is not only gender?
	BG	When I said gender is not...
	DM	[Unclear], it's more the opposite. I want you to speak more about this idea.
	BG	For me, it's the broader sense of caring about EGI related aspects, basically.
00:29:01		In the broader sense, that you're start thinking about ageing employees and people with disabilities. So, whenever you start writing your next research proposal or try to build your next research initiative, you not only think about that big corporation's profit, but you also start thinking about how that will start affecting not only women but different marginalised portions of the community.
00:29:38		That's where I see this whole initiative is fitting, at least in my mind.
	DM	Very nice. Now let me shift on the idea of design. That project, that was given to us, we didn't invent that, Bjarki and I, [unclear].
00:30:00		The IDRC, International Development Research Centre, came to us. They wanted to do something about what they saw as gender design and see a way of piloting that idea amongst STEM disciplines. That's what we were tasked to do. So that's why they got Bjarki, and that's why they got Nick. I've been



Time code	Speaker	Text
		working on the history of design, the history of technology, people with disability and all that, that's how I got there.
00:30:29		What I'm asking you is what design brings to this, so the faith of IDRC was that there was something about design that might be useful and interesting for people in STEM. Can you reflect on this? This programme is really design organised, in a designerly way as they say.
00:30:59		Can you talk about the role of design and making and prototypes the way that you see it, the way that you saw the programme doing it?
	BG	Certainly. Designing, starting from the communities around us, to the homes that we live in and the gadgets that we keep our homes with.
00:31:32		Like the example of the Rwanda project and the solar systems, solar panels, definitely, it has very deep connections to... Design is very critical, obviously.
00:32:02		The important thing is that we design things with all kinds of people in mind, not just...
	DM	To me, I don't know much, you, as a building engineer, you're already in the business of making.
00:32:29		Maybe for you when you watch people who are designers, like design engineering like Bjarki, or designer designers like Chiara, maybe, or Emmanuel, maybe you think these guys are like me, so you're not learning very much, or are you learning much from designers? Do you see them working and say, oh, that's interesting? Do they bring something to your practice or are you already doing it?
00:32:59	BG	To be honest, I wish I had more interaction with Bjarki and Chiara, and hopefully we will in the future. I cannot really comment on that. There are lots of things that we can learn from each other. COVID didn't really help with that interaction.
	DM	That's fine. You know where to find us.
00:33:30		Sure, that's good. I'm thinking I wanted to go back a little because I forget to ask you that when I was thinking about, you do interviews, you do data mining. One of the things that Emmanuel, and the programme in general, we're trying to talk or to promote or to reflect on is traditional and indigenous



Time code	Speaker	Text
		knowledge. Knowledge that is already there in a non-scholarly form in communities. Any thoughts on that one?
00:34:01	BG	Any thoughts on that one? Cleary, it's very critical. In fact, in my field as well there is a new famous term for it and it's called nature-based solutions. There's lots that we can learn from indigenous wisdom and expertise in living in nature.
00:34:34	BG	So, incorporating nature-based solutions, like whether it could be as simple as green rooves or green walls and various architectural elements. Designing buildings and homes that are in harmony with nature.
00:34:58	DM	Very good. There other things that I wanted to say. Part of it, we're a university, and this programme, when we took it from IDRC, we said, well, what's in it for us? Part of it is what was in it for us is opportunities to teach, so opportunities to give research assistants the opportunity to be part of networks, to supervise them in learning other things that just are thesis.
00:35:30		But also, more broadly, maybe, opportunities to, in the longer term, integrate some learnings about gender design and learning about the different parts of the south that the programme was supporting and integrating that in your teaching. Could you talk about this, about your RA and the gender programme and teaching in the programme and learning?
00:36:02	BG	The question is more about have you had a chance to incorporate the things that you learned in your own teaching.
	DM	And also, what happened with you and your RA. Was it nice to have them over there? Did you see something happening?
	BG	It was helpful.
00:36:32		You're always busy with other things, so it's always good to have someone helping. Right now, I have...
	DM	It was Yagmur, was it, your RA?
	BG	Yes, that's correct. Later on, after she graduated, I have a volunteer happening from NRC, who is Brant. He is also quite experienced in this topic.
00:37:01		That was helpful. I think he also learned. Both Brant and Yagmur, they both learned, interacting with these two projects.

Time code	Speaker	Text
		The issue is that the project being multiyear and students come and go. It's just the natural cycle of the project.
00:37:32	DM	What about your own teaching engineering, does it go into this? Maybe it was the same reason, you're generally thinking about EDI and that percolates in your teaching. But the programme in particular did not have an impact on that, or did it?
00:37:57	BG	You just put it nicely. It percolates in indirect ways into my teaching. We are teaching very well-defined courses in engineering, accredited by the Canadian Engineering Accreditation Board, so is there isn't a lot of wiggle room in what we deliver. Of course, in indirect ways it percolates into our...
	DM	Maybe you have to think about the accreditation system like you think about the building codes.
	BG	Yes, you're right.
00:38:30	DM	Maybe that should be changed in the accreditation system.
	BG	Honestly, building codes are much more open and transparent than the accreditation board. It's such a black box.
	DM	But it is the same, isn't it? In a way it's these rigid structures that determine so much. That's very good. The last thing I wanted to ask you is a very open question. I'll start with a preamble.
00:39:00		This programme was three years. It's finishing this fall. Our team at the centre, we are doing legacy stuff. There's going to be a website hosted by Carlton with all that the programme has helped generate. It's going to be a shop window of what's happened. Then there's going to be an archiving of the raw material that has been gathered, like this interview.
00:39:29		And that's it. We didn't promise anything else to anyone otherwise. We also gave a report to IDRC. In the report there is a list of things that we suggest might be interesting for IDRC to do, which they usually take very seriously. Like part of where that programme came from was many things that other people had written in their own project. Having said that, we are also open to listen to different stakeholders in the programme to see what they think.
00:40:00		Like a really idealistic question here. If it was up to you and there was no money question, what is it you'd like to do personally or in your networks or whatever, what is it that you

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		think could be next steps to leverage, strengthen, take the opportunity of what's happened over the last three years and do stuff with it? What would you say, like just to dream about it?
00:40:32	BG	That's a difficult one. I never thought about it.
	DM	I'll tell you what you already answered that's going to give you some time to think but also will tell you that you don't really have to answer more. You said there are some ideas. In addition to what you were already thinking, this programme is strengthening ideas that you have put into grant applications.
00:41:05		Like your direction of research is going in many ways in directions that this programme was going, and so it is informing your way of thinking about these two programmes, so that's good. You also said I wish I had worked more with Bjarki and I hope I will in the future. Hopefully, your comment, however tenuous, your joint experience with Bjarki and Chiara might be...
00:41:31		Now you know they're there. They know you're there. You know what you're doing and they're doing, so eventually there may be an opportunity to work more with them.
	BG	Maybe I can elaborate on that. In fact, that is in the making. The housing related project that I referred to earlier, led by one of my colleagues in the department, Liam O'Brien, Chiara is actually a co-lead on one of the tasks in that application.
00:42:05		The name of the project is At Home, so, yes, it's not only a blue-sky thing, it's happening.
	DM	That's good. The blue-sky thing is also, if I may ask, to help us think about the future.
00:42:29		Because we're absolutely not sure... So, we, Chiara, Bjarki and I wrote an article on transdisciplinarity, which we sent your way, and how we learned about the meeting of disciplines as we were doing that programme. Maybe the main argument of the article is that, in a very designerly way, we left the structure of this programme as open as possible as we progressed.
00:43:02		To have an answer you could say we answered the needs and what we saw of different projects in as timely a manner as possible, so that the evolution of the programme was in many ways very amorphous. We tried not to direct. We tried to

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		reinvent the structure as we went to make it as responsive as possible.
00:43:28		All this to say that we never presumed the outcome. We never presumed the sequel. But we're also very actively thinking about the outcome and the sequel. It's just we're thinking on our feet all the time. For us to harvest from people like you, ideas about what might be possible in the future, is interesting. Now I've got some of the stuff you're doing, that's enough, but if you have things that you're not doing but you think would be good, that's the time also to mention.
00:44:03	BG	I think I'm dry of ideas at this point. If something comes to my mind, I can let you know.
	DM	That's completely fine. That's good. One of the things that I said, maybe it was the last question, I was thinking that I didn't talk enough about this. I like your funny thing about interdisciplinarity with engineers is talking to other engineers in other sub-engineering groups.
00:44:30		But joking aside, one of the thrusts of this programme was to put in conversation people in STEM with people in humanities and social sciences. That's the A in STEAM, Arts. Has that programme done anything to your idea about the use and the potential of conversations with people in the arts and humanities?
00:45:00	BG	I think it did. My research projects now are dealing from just sole engineering co-applicant projects, to projects including folks at the School of Economics and Architecture.
00:45:31		Whether they would be successful or not is another story, but now I work more with non-engineering colleagues than before.
	DM	And that's part of it in a way, like all this interview, that programme is part of an ambition you have and it just confirmed your idea that it's a good idea, that you'd like to do more.
	BG	Yes, certainly.
00:45:59	DM	Is there anything else you want to say? I've got a few things to say off the record, just selfish things about my own interests, but I'll stop the recording if you have nothing else to add.
	BG	I don't have anything else.

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	DM	Let me stop this.



GENDERED  
DESIGN IN  
STEAM

## Interview transcript

Interviewee:

Fred Afagh | Professor, Mechanical and Aerospace Engineering,  
Sector Expert projects ID65 and ID71

Carleton University

Interviewer:

Dominique Marshall | GDS Principal Investigator

Carleton University

Date of interview:

25 July 2022

Transcribed by:

Way With Words

## Fred Afagh - Sector Expert projects ID65 and ID71

**Speaker Key:**

DM Dominique Marshall

FA Fred Afagh

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00:00:03	DM	Good morning. It's 25th July, 2022 and I'm interviewing Fred Afagh, who was the sector expert in the gendered design project for one project in Nigeria and one in Mauritius. It is a very open, to start with, conversation, Fred, and the first thing I want to ask you is to recall and tell us the story as broad and as far down as you wish about your involvement in this project.
00:00:34		Whatever you want to say about why, how, with what result, the story of you in this project.
	FA	If my memory serves me correctly, this started probably more than two years ago. I do remember that because it was pre-COVID when I first met with Bjarki and he talked about it.
00:00:58		And actually, the way I got involved in this thing was because I've been involved in the area of wind turbine analysis and design, offshore wind turbines and onshore wind turbines, and in fact at that time, I had just accepted a graduate student from Nigeria, of all the places, who was going to work on the sound, noise problems in wind turbines.
00:01:33		And she was going to start to work with me at that time. She's just on the verge of finishing her degree. She was a master's student. And Bjarki mentioned this, and I said, well, that's very interesting, I have a Nigerian student who's starting to work with me on a research project. And that's how we got started. And then he said, well, I do have this project in Nigeria where they are trying to design a wind turbine with gendered design considerations.
00:02:05		That's how it started, and I got involved with Bjarki. And my student, I would really like to mention her name, is Victoria Asi from Nigeria, who is actually one of I think they call them in the context of organisation research assistants, if I'm not mistaken.
00:02:28		And she got involved, and she was actually basically my representative in the day-to-day procedures of these two projects, the wind turbine and generator, on this. And then I've

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		been following it quite often with as much time as I could to dedicate to this thing, and it's been quite an experience.
00:02:59		In fact, I have to say that if I have to characterise this experience, I would call it a challenging experience, and that's in a positive sense rather than a negative sense. Challenging in the sense that it's a really new area of research, that as soon as we started and I talked to some colleagues from Nigeria, I specifically had two or three different online meetings with the colleagues in Nigeria.
00:03:30		Unfortunately, I never got a chance to talk to any of the friends online from... Sorry, to the friends from Mauritius, not Nigeria, but I never got a chance to talk to the friends from Nigeria, as such. But one thing we realised immediately is that this gendered design is something, that we didn't know what it was.
00:03:56		We knew there was something like that but we didn't know what were its implications, what were the dimensions, what were the challenges in there, what is really defined to be in the [unclear], and, of course, I was coming to this from mainly an engineering point of view, what are the challenges and what is it that we are trying to accomplish. And while I was reading the reports from these two researches during last week, my heart went out to the people who were working in this area.
00:04:32		Because I felt like I could see throughout the report how they also had struggled with this idea of what is a gendered design, what is it that we are really trying to do. It's very simple to say that in the design thinking we are trying to implement the gender aspects of the design.
00:05:02		That is a very nice definition or description, but specifically, what are those considerations, those are the ones that have been the challenge. It's been quite a positive experience. I enjoyed it and I liked reading what are in fact the final reports.
00:05:31		And I have to commend them, specifically, if I may say so, the one from Nigeria. They have done quite a bit specifically in regards to the implementation of gendered design in their work. That's very briefly how I got involved in this and what I've been involved in doing with the colleagues in this regard.
00:06:00	DM	Thank you. If I go back to some aspects of what you said and take some themes that you've touched on but ask you to do more, you say, I'm an engineer, I came to this project with my training in engineering, and then you had these two years of



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		interaction and talked to your RA and with one of the project managers. Can you talk about what it means for engineering and maybe also what it means for engineering in relation with other disciplines?
00:06:35		These two years, what did you get out of these two years for how you think about your discipline with other disciplines?
	FA	That's a million-dollar question. If I had the answer to that, I would be a very rich man. But nevertheless, let me try to address.
00:06:55		I think one of the things I learnt from this project is that this concept of a gendered design has to be implemented into our engineering curricula in the undergraduate school from the first day. It is for somebody like me who is from the old school and when I was going to school or people of my generation were going to school, this idea of gendered design was never really there.
00:07:33		It had not been introduced. That generation was trained to work only with the cold-blooded equations, not too much of an emphasis on the human aspect of what they were doing, really.
00:07:57		Some of my colleagues might not agree with this comment, because they will say that everything as an engineer we do or design is for humans and for the progress of civilisation. I see that, but I am not sure how much we have been able to consider in our engineering profession when it comes to things like sociology, psychology of the user, gender of the user, race of the user.
00:08:36		These sorts of considerations, I should probably put them under the general title of social sciences, if I may, the marriage or the intersection of the social sciences with the engineering. This is something which I think has been missed and it is very timely.
00:09:05		Now we are actually starting to realise this, and this is the time to bring in these aspects of social sciences more into our engineering undergraduate programmes so that our graduates will be trained with this sort of understanding and with this point of view.
00:09:31		And then I think a lot can be developed if this happens. I don't know whether I really answered your question or not.

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	DM	You did at a very philosophical and meta level. You don't have to, but you've just read their two reports, if you were to make the case for what you're saying about the curriculum change or something, would you be able to pick out of these two adventures and your relationship with them some actual examples of this at work?
00:10:06		Where you see the benefit of your discipline thinking differently, are there any telling examples?
	FA	Yes. In fact, while I was reading the reports, I kept asking myself that question.
00:10:26		If you read these two reports, you will see that in both of them, a big part of what they considered to be gendered design was actually going out to the community and asking the people, interviewing the people about what it is that you want. What are your challenges in using, e.g., a wind turbine, what are your challenges in using a generator?
00:10:55		And a lot of the people, a good percentage of the people, that they interviewed were women, of course, in this case. In one of these projects, I think it was in the turbine project, often the questions they would ask, in my opinion, had nothing to do with the gender, really, it had more with the economics, with the social aspects of energy production, the patterns of energy use in a family, which are very valid questions.
00:11:36		I'm not denying that, but it was not strictly a gender problem. The other people did the same thing. The people who were working on the generator design, they also did the same thing. They spent a massive amount of time and effort at the beginning of their project to go through these interviews.
00:12:03		And interviewed various people, various trades, trades which were using these generators, and a lot of them, the workers in those trades, were women and whatnot. But at the end of the day, it looks like, in the case of the generator, e.g., the only thing which stuck in my mind which came out of this gendered design is that the weight of these things should be reduced so that the women could handle it.
00:12:36		You see, in the case of the wind turbines, there wasn't even a single item or issue like the weight that would stick out in my mind. In the case of the generator, that came out very clearly in the report, but in case of the turbines...

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00:13:05		At least I missed it, I didn't see it, a very specific issue. This is the kind of problem. That's why, as I said, my heart went out to these people, that they were trying to dig out, to find out, exactly what are the gendered design issues. They were successful to a certain extent, but I think there's still a lot of work to be done in that area.
00:13:35	DM	As they were doing these interviews, get the gender out of there for a moment, when you say engineering should open up to more sociology and psychology, do you think even if it was not gender specifically that they were doing some work about the relationship between the technology and its future users that was meaningful when you say we should change our curriculum?
00:13:58	FA	That was definitely the case, absolutely.
	DM	Gender or not? As they were looking for gender, they were doing these interviews which you think were anyway interesting?
	FA	It was, there is absolutely no question, especially in these Third World... I should be careful that I use the right terminology, though. In these developing countries, yes.
	DM	That's interesting. Let me just ask you a bit.
00:14:28		If you were just for fun sitting at a table there and saying we need to change our curriculum, can you start imagining how you would do this or is it something that you would just say I need to invite people to help me change the curriculum? Or have you got an idea of how and when it might be done?
	FA	Yes. This has to be a lengthy process. You see, let me give you a little bit of a different aspect of this.
00:15:01		In engineering, also when it comes to gender questions, one of the challenges we've been having recently, for quite a number of years, from the very beginning, is the participation of females, of women, in the profession itself. And the engineers are quite aware of this all across all the universities, all the deans. I was acting dean of the faculty of engineering and design for a couple, three years, and I was involved with all the deans and whatnot.
00:15:36		One of the biggest challenges they are having, they face, is to attract more girls and more women to this field and to really do

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		away with this idea that this is a tough guy's work. Engineering is not a tough guy's profession.
00:16:02		It is very well suited to women. In fact, we have very, very successful women in engineering. I think, e.g., going back to your question, if you are implementing, if you want to implement, the gendered design in the engineering curriculum, one of the things which should go along with this I think is at the same time trying to make sure that we've got more female engineering students in our classes.
00:16:36		They will actually change the whole dynamics of the profession, they will change the whole dynamics of the undergraduate programme. They are normally our top students, in fact, even today, usually the ladies, the women. I think this thing, it's got a number of...
	DM	Pieces?
00:17:00	FA	Yes, the number of angles that should be looked at and should be brought into it. It's not a matter of sitting down and putting a curriculum in which the idea of gendered design is 20 hours of lectures on gendered design. That's not what I'm talking about.
	DM	Something deeper? It's interesting, because one of the themes in Rwanda, who applied and then successfully got their funding, they were coming from, you were coming from.
00:17:31		They are a group of women engineers who spend a lot of time trying to convince girls in high school they should come and do engineering at university. They had never done research together, but they took the opportunity of that funding to say, say we have to have a project that would show how it's important. They did what you are saying backwards. They're there already, and they tried to do something substantial to demonstrate where it is that maybe...
00:17:58		Because we are here, because we're thinking that, are there any questions that we are particularly sensitive to that we would like to solve with that \$20,000? That's interesting, what you're saying. Now I've talked about your profession, let me ask you...
	FA	Dominique, if I may interrupt you.
	DM	Yes.

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	FA	Sorry. In that regard, in fact, just even in the report from the generator design for, I think that's ID65...
00:18:28		Or the people from Nigeria, they mentioned it a number of times, how this IDRC project has given them a chance to establish connections with various trades and organisations in this area and in the general area of collaboration with these people when it comes to design, that they will be using this in the future. And they say very clearly that had they not received this funding, they would have never had that chance.
00:19:02	DM	Very nice. In that way, it's one of the aspects you're talking about, is that there is adding more women there but there's also establishing some practices and relationships that maybe now your profession is not doing as much, which leads me to my... I talked about your profession. Now I'm going to talk about the community. This project is really grounded, one of them in communities in Mauritius, in very specific communities, island communities, in Nigeria.
00:19:36		How have these two years made you think about community relationships with a very local place, engineers in relation with the community?
	FA	This was one of the strongest aspects of both of these projects, that they established... Because they were going to do these interviews with the various sectors of the community, in fact a large amount of effort was spent in that regard.
00:20:06		In the case of Nigeria, e.g., in fact they did this in a very interesting way. They had a pilot interview in which they tested the process, and the questions they had, they were asking something like 20, 25 people, I think, were involved in that first pilot.
00:20:31		Then they brought those results back, they looked at it, and they actually upgraded their questions and their approach to it, and then they went back, and this time they interviewed, if I remember correctly, some 400 different people. This is very important, and I think both of them did a tremendous job in this regard, in regards to reaching out to the community at large, interviewing them, and asking some very interesting questions.
00:21:04	DM	Back to your own practice, then, you were there as a sector expert. In the case of Mauritius, with whom you spoke, and the two projects with whom your RA spoke, you tried to impart

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		some of your knowledge, did you as you were watching them doing this learn stuff for your own self?
	FA	I did learn in fact some stuff. Yes, I did.
00:21:29		But interestingly enough, another thing that you and Bjarki might be interested in is that when it came to the technical aspect of the work only, I don't think they needed much help. I think they did a reasonably good job of this.
00:21:56		In fact, in a couple, two or three, I don't remember exactly, online meetings that I had with colleagues in Mauritius, most of the discussion was about the gendered design aspect of the work, was not about the technical aspect of the work. The technical aspect of communication between us and them was rather minimal.
00:22:25	DM	Do you think that designing a turbine over there and over here is so similar that there's not much to be... You just recognised each other and started to talk about something you were both learning about instead of... There was not much to reinforce that?
	FA	Yes. Let me put it this way. At least at the level that they are designing now, yes, that is true, because I think, to be honest with you, from what I read, both of them were very much engaged with this idea of implementing gendered design.
00:23:01		They were very much involved with that. Both of them, especially the people from Nigeria, provided me with quite a bit of a background in their report, with quite a bit of a background in how they achieved their design, engineering only. And I didn't have the chance or time to look at that in detail.
00:23:29		But I read them, I looked through them, and they looked reasonable. They looked quite reasonably sophisticated and quite well done. I had no concerns in that regard.
	DM	Now we've talked about the profession, we've talked about the relationship with the community, and then I wanted to talk a bit about the role of design. Part of the ambition of IDRC when they gave us that...
00:24:00		We had something to do. That's why they thought they wanted Bjarki there and me, social science, there, is that they thought that the methods that designers use to solve problems and document questions might be fruitful, to bring in the question of

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		design in STEM. There was a real... The question of gender, sorry.
00:24:27		There was a real hope that the methods of design, which were the methods with which we design the whole programme, would help that reflection on gender in STEM. Can you speak a bit about the design?
	FA	Yes, I can, and I think it has, it would, it does bring in, but it's rather minimal. And the reason for it is that, at least to the best of my knowledge, this is the first step which is being taken in that way.
00:25:05		I would be very surprised, at least in the two projects that I looked at, that we would have come with a huge amount of contribution to the design thinking. It is a good start. I think we will need more of these.
00:25:31		I think in the long run, it will have a great impact and potential in developing the design thought in this regard and implementing gendered design and whatnot, but it's a good first step. Yes, I have no problem with that.
	DM	I think you flipped my question, or maybe you didn't. I was asking Bjarki, Kerry with the design ideas about how you organise a programme, how you organise workshops, how you leave a lot of things open.
00:26:03		There were already design methods to help ideas about gender percolate in these 20 projects or generate some interest for gender. There were already design, you could say, themes [?] at work in all this.
00:26:25		As you were watching this, did you detect that, did you find it interesting to see how it worked, or did you not really see that it was happening?
	FA	Let me see if I understand your question. You mean the structure and the format which this funding was providing them?
	DM	Yes. For instance, prototyping, we're giving you money to research and prototype, and we're going to train you in prototyping and we're going to provide resource on designing questionnaires and provide resource on having...
00:27:05		And also, even encourage you to put together a team which is good at design. It was inbuilt in the programme that design



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		would be there as a kind of glue between STEM and gender. In that, I'm just wanting you to talk about it. Maybe you don't have anything to say, but...
00:27:25	FA	No, I do. In fact, not too much, but I do. Yes, they did. In one case, in the case of the project from Nigeria, they actually did end up designing a prototype and manufacturing one. And the next step, I understand, in doing would be to refine that prototype further based on what they have learnt from the prototype. In the case of the wind turbine, they did not come up with an actual physical prototype but they had a computer simulation prototype.
00:28:06		This is a very good point to bring this up. One of the problems that the people in Mauritius had with the turbine design was that from what I understood they were getting a couple of PhDs and one master's student.
00:28:34		Or a couple of master's and one PhD student, involved in this project. This was going to be part of their research, and from what I understand, they actually got into a little bit of a challenge with their administration, with their faculty, saying that these projects, what these guys are trying to do, they couldn't see exactly whether this was PhD material.
00:29:05		Let me put it this way, whether this was PhD research. In fact, it really was an engineering problem, what they were doing. They had challenges like this. We had a very good meeting with them. You see, I gave them the example of Carleton, in fact, of how to handle this.
00:29:31		In our case, we do have a programme in the faculty of engineering, in the energy programme it is in fact, with I believe the school of economics, which has got both aspects of engineering and energy networking and the social aspects of it and whatnot.
00:29:57		And we do give an actually combined master's degree. The whole idea was that the engineers knew what they were doing, but when it came to economics and the social aspects of it, they had absolutely no idea. The economists and the social people, they knew exactly what they wanted to do, but when it came to engineering, they had no idea what that involved. We brought the two of them. The people from engineering are now taking courses in economics, the people in economics are taking some introductory courses.



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00:30:32		And then, in fact, we are giving masters in that area. I don't think we are giving PhDs yet in that area. I told them that if you have that sort of a programme at your university, you would have no problem to fit this sort of research under that school, that programme's graduate research work.
00:30:55		They did have problems like this, and I think a little bit of time was spent in settling those issues. But from what I understand from Nigeria, they didn't do this. They just built a team to work on this. I think probably some of them were even undergraduate students.
00:31:29		In other words, they did not tie this project to an individual getting a degree, and I think that was probably a wise thing to do. And that's why they moved on much faster than the people in the wind turbine project, and they were able to move in and move out very quickly and build a physical prototype and interview.
00:31:58		And they had quite a bit of a challenge. In fact, there was an uprising, not an uprising but a social disturbance for a while in the Nigeria, in the city or something, because of COVID vaccine and whatnot, and they talk about how this actually delayed their work. But nevertheless, I think they accomplished a bit more in their project that what the other people did.
00:32:25	DM	That's good also, because I wanted to... You've talked about profession, you've talked about gender, we've talked about design and making. Now about training, you've talked very eloquently about training in Mauritius and training in Nigeria, and you've talked early on about training at Carleton, how in the long term it helps you think about maybe curriculum changes that might help the discipline. You also through all this and that's how you started, had a research assistant, Victoria, who was your main link with the project.
00:33:04		When we received that funding from IDRC, we also asked what's in it for Carleton, and, as you know, because I think you were dean at the time or close to the faculty office, we secured some funding from each of the five faculties to add to the IDRC money some money to train graduate students here, to pay for it.
00:33:28		And could you talk about this, that for two years you had Victoria, who received that money, who did some work, how

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		you see this and maybe how that could be done, more of it, better, less, or something? How do you see that adventure?
	FA	Definitely the RA-ship that Victoria received because of being involved in this was a great help to her.
00:34:03		I still paid her the same RA that I would have paid her even if she didn't have this thing, so I didn't substitute this for my own RA-ship. I funded her the same as I would have if she did not have, but that additional funding coming in was a great help for her.
00:34:28		And I think she was quite interested in the project also. She participated, from what I understand, in all of the meetings, in the presentations. She had a couple of presentations which I think were very beneficial for her. It's actually a practice ground, if you wish, for her to practise this idea of presenting things and telling people, talking to other people in the area about what it is that she's been doing.
00:35:01		It was a very positive impact on her. There is absolutely no question about that.
	DM	You supervised her thesis as well, her MA?
	FA	Oh, yes, I am supervising her thesis [overtalking].
	DM	On the noise and wind turbines?
	FA	Yes, except that she works on [unclear]. The turbine that they are working on in Mauritius is what we call a vertical access turbine. In her case, it's a horizontal access wind turbine.
00:35:33	DM	Horizontal one?
	FA	Yes.
	DM	Good. If I understand well, you spoke to Mauritius, you did speak to Nigeria, you spoke to Victoria, you did not participate in these workshops we had or something. That is what you did. When you told me your story, you did not come to a workshop. Did you read the bulletin or what else [overtalking]?
00:35:59	FA	Yes, I was following the bulletins. I followed all the bulletins. Just a second. There were two or three workshops, about an hour, an hour and a half, with myself, Professor Khalil from Mauritius, and some of his colleagues. And in one of them, I

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		think in fact Bjarki was also present and somebody else, another lady.
00:36:31		Who is the lady who is... I forget her name.
	DM	Kerry Grace?
	FA	Yes, Kerry Grace, I think [overtalking].
	DM	That was work with the project themselves, because, and I'm not blaming you, I'm just establishing, we had also, say, a workshop for all the projects on prototyping, one on gender, these other things that you [overtalking]?
	FA	No, I did not participate in those, though.
00:36:55	DM	That's fine. My last bit, really, is to ask you more generally. I've asked you about bits and pieces, but we're finishing, we're folding this up in December. There will be a bigger bulletin with all the stuff, there will be a website that will be a kind of repository and a shop window of what happened, some kind of usable knowledge, but also for the 20 projects to have some good-looking stuff that they can use themselves wherever they are to show what they've done. We're helping them show what they've done.
00:37:32		But we are not presuming yet the sequels to all this. We might fold it all up, make sure that everything is deposited at the right place, and go our separate ways with our own individual or mini-group knowledge that will help us to do what we do without carrying on with this group. Or we might decide on some kind of synergies that are worth pursuing.
00:38:00		Part of this interview with you, and I did some interviews also with the PIs of each of the projects, is to ask, if you could dream a way of what could be done out of this, small or big, at Carleton or in these places, what is that you would dream about, where could that go?
00:38:27		You've already said maybe fuelling some thinking about curriculum change at Carleton. Have you got any other things that you think should be encouraged or discussed or dreamt about?
	FA	I haven't thought much about this, to be honest with you.

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00:38:59		I have but not in the direction that you are asking. I would ask that you give me a bit of time, let me think about this, if that's okay with you. Then I can send you an email and share with you what I think, how we can use this.
	DM	Because at the moment, I'm just telling you that because part of the design thinking in all this is that we've always left... At every step of that programme... We had our parameters. We've left things wide open.
00:39:33		As you say, and maybe frustratingly, for instance, we left the definition of what is gendered design very, very open, because we knew, we said, let's think more about gender in your own discipline, put together a team that will allow you to do this, but then after that, we did not want to presume what gender meant amongst these groups as long as it was broadly addressing these questions.
00:40:01		And partly because we didn't want it to be defined as some more women in engineering or a problem that is distinctly women. When we ended up with stuff like what you said, more of a social and economic description of the use of these generators, we were fine. This is in a very broad way gender, right?
00:40:25		We didn't presume much. All this to say we did not presume whatsoever the sequel. We think in general it's worth one visit to the research office at Carleton to say, this is what we did, this is how we spent your training money for RAs, do you see, but we won't say, and now we want this. We don't really know. The minimum is that I go back to my stuff. That was the reason why I came there, because it fitted a lot of what I trust is important. I carry on doing what I do informed by this, but I'm not sure that I will do more of this.
00:41:02		This is what I'm saying. We'll probably have a visit to the research office. We're reporting to IDRC. We are giving as much back to these 20 projects as we can, giving them as much support so that they can carry on what they do, why they do it, but we are not yet or maybe never presuming anything else than that.
	FA	I have a couple of suggestions in that regard. One of them is that we have actually two undergraduate courses in engineering.

Time code	Speaker	Text
00:41:33		One of them is a first-year course, the other one is a fourth-year course. The first-year course, I haven't been involved in the details of it for a long time. I don't teach either one of these courses, but I know this is being offered.
00:41:55		They teach about the fundamentals of engineering, what is an engineer, the first-year guys who come into the class, just to give them... And these are common to all engineering. One place that this concept of gender design can be introduced, in half a lecture or a lecture, is right there, but you have to talk to the people who teach this course, it has to be brought into the curriculum.
00:42:28		And it would not involve a big red-tape process, because it's just like news. Teaching the course, I understand what it is that you want to do, I agree, I say, okay, I'll talk about this in my course. That's one area where this gendered design concept can be introduced. In fact, I don't believe there is any talk of gendered design in any of these courses. That's one place this course can be introduced.
00:42:58		The other place that it can be introduced is a fourth-year course, which is called Engineering Ethics, but that should not really mislead us. It's not only all about ethics, it's about mainly ethics but other aspects. It's really how an engineer interfaces with society. That's the way I would put it in general.
00:43:25		And there might be room to talk about gendered design or gender sensitivities, if I may use that sort of a word in this lecture, too. Again, I don't lecture, I don't teach those courses, but it would be worthwhile to talk to the people who teach both of these courses. The third thing I would suggest is that our dean, from what I see and understand, is very, very interested in STEM.
00:44:03		In STEM involving women, in STEM education. It might not be a bad idea if a short report, synopsis is put together, a couple of pages maximum, I would say, based on this experience.
00:44:28		And submit this to the dean and to all the chairs and directors in the faculty of engineering and design and bring this issue to their attention and see where we can take it. Because specifically, we have actually three design schools in our faculty.
00:44:55		We have industrial design, we have architecture and urban design, and then we have IT. These are three design schools.

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		Design is the core of these three departments. But at the same time, the other four engineering schools, if some sort of internal report is produced and shared with these people, I think it would be very much welcome.
00:45:30		Or it would be a starter for things to be developed.
	DM	You can pass on the email now, because you've come up with three very nice suggestions. But if you do have more ideas, please send an email.
	FA	Sure. I certainly would.
	DM	But I told you I would finish at 11:55, and I think unless there's something else you would like to say... We could talk forever, it was very, very interesting, but I've gone through all the main themes that we wanted you to speak about, so I will thank you.
00:46:05	FA	Thank you very much. I think I did talk about things that I was hoping to talk about when I was thinking about this meeting. I want to congratulate you and Bjarki on a job fantastically well done. I think this was very interesting and much needed.
00:46:25		I think it takes a lot of courage to launch projects like this, areas which are untouched. They are not...
	DM	I think the more of these connections we can do, the better. Even if this finishes the way it finishes, I think it's been very nice for me to interact with people like you. Thank you very much, and I hope to see you again.
	FA	Thank you very much.
	DM	Bye-bye.
	FA	Bye-bye.



GENDERED  
DESIGN IN  
STEAM

## Interview transcript

Interviewee:

Katie Bonier | Associate Professor, Architecture and Urbanism, co-director of the Carleton Urban Research Lab, Global Water Institute, Sector Expert projects ID37 and ID41

Carleton University

Interviewer:

Dominique Marshall | GDS Principal Investigator

Carleton University

Date of interview:

4 August 2022

Transcribed by:

Way With Words

## Katherine Bonier - Sector Expert projects ID37 and ID41

**Speaker Key:**

DM Dominique Marshall

KB Katie Bonier

Time code	Speaker	Text
00:00:00	DM	Welcome, Katie Bonier. It's the 4th of August 2022 for this conversation about your role as a sector expert for the Gendered Design STEAM Project. So, my first question which we designed together in the team is we'd like you to the story as far back and wide as you wish of your interest for this project and your engagement with it.
00:00:33	KB	Okay. I assume... When did we begin, 2019? I think.
	DM	Is that correct? I think that Bjarki reached out to Architecture and was connected with Ozayr Saloojee and with me because I was there.
00:00:57	KB	And I assume this is why because I was there and I run a group or a project called the Carleton Urban Research Lab and I engaged in issues of design and public design and public space and equity and cities.  And then I believe Ozayr and I came over and met with you, Dominique and with Bjarki. And my timeline would be confused but I assume that was the middle of spring 2019.
00:01:36	KB	And had a chat, and at the time the understanding... What was a bit hard to come to grips with was how we would be helpful. What the procedure would be that would make this an initiative anchored in the so-called Global North and connected with the so-called Global South.
00:02:11		How that would unfold in a way that was not a colonial approach.  But in your explanation, especially of the theoretical framework around what was being called at that time Gendered Innovation, Beth Robertson, [unclear] would have been in on that meeting.
00:02:38		The third explanation of that framework and its relevance concerning the built environment and issues of equity and its relevance to researchers worldwide and selfishly to me, I think it's relevant to us at Carleton and in Ottawa the sharpness that



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		that perspective could bring.
00:03:05		That would make a connection possible, that could be quite focused but also it seemed flexible in that when grants were issued, when research projects came forward the direction, the trajectory, the aims of that research would be truly defined by the researchers.
00:03:32		With people like me more in a respondent mode might be useful helping as people want to be helped rather than in a predetermined way fixed by our institution or by my particular research angle. In other words, where I'm able to be helpful I could help. If I were not perhaps I could help to find resources.
00:04:02		But then it would not become some sort of hierarchical structure in which me or my group or my institution was director of operations. And so to me that meeting it took a while, I have to say, to understand how the funding would work and the process would work.
00:04:23		But the idea that there would be an air that the arts and history and prototyping and design would be from the start at the core and acknowledged as relevant not only in the practice of Gendered Innovation but also in the analysis and reporting of it seemed to me just tremendously exciting. So, that's my memory of the starting point.
	DM	Good. Carry on.
00:05:02	KB	And then I can't remember your exact terminology but I feel like it shortly after that that in industrial design we were gathered for a really productive day of workshops and groups. I don't know if that was workshop 1 or if that was something else. I'd have to look at the timeline to remember.
	DM	I think we called it the induction meeting or something. I think it was...
	KB	The induction meeting.
00:05:28		So, in terms of the way that that was organised. For one, for me, it brought in interesting people from Carleton, some of whom I knew, some of whom I did not. By focusing on some particular topics and questions, allowing us to do free-form thinking with Post-its and whatnot, and also to then distil things down to particular ideas that might help to shape the [unclear] and it might also help to shape the direction of the project was

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		really very well run.
00:06:08		And I thought it went very well as far as sending things forward. And then I think at the time Beth is the person moving things forward in a way.
00:06:23		And it's usually the way material was shared of the [unclear] together, again, was very reassuring in that I felt that the effort to really [unclear] something was quite focused but then flexible enough to seem to be quite successful. So, that was my memory of the whole beginning point.  I'm happy to comment more on other things after that but to me that initial coming together at the induction meeting and the initial meeting to discuss what the project was.
00:07:07		And we had another meeting, so just thinking about it... Some other meeting in Dunton Tower in between those two, I think. Because I remember Jill Wigle and some other folks being involved in that meeting which may have been...
00:07:25		I can't remember if that was just a meeting of potential sector experts or what that was but that was also a way to actually see and meet other folks and to get some clarification on how we might be helpful.
	DM	And then carry on. Whatever you remember of the story of your involvement afterwards.
	KB	Okay. Well, after that we did have... I've gotten pretty far without looking at my calendar which I could do.
00:08:02		But after that, after the proposals came forward I think I had questions in the interim [?]. I had concerns about... We met and talked about it and you had your different regional experts who were working to put out the work.
00:08:27		But I was wondering who would apply how we get [unclear] whether it would be all through personal connection, whether there would be broader networks.  And then after the applications came back, when the proposals came back I can't remember whether there were 200 or however many they were it seemed like it was wonderful that there were that many folks applying.
00:09:01		But at the time it may have been because it was a shift over from this to...

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	DM	[Unclear].
	KB	Or however it was going. I wasn't sure. I think that we did have a meeting with Beth with the research assistant, Fiki Falola. And Fiki was one of my thesis students and had worked with me as a research assistant before.
00:09:31		And what I didn't realise, I think, in that transitional is that... Which was wonderful, speaking to Fiki about it it seemed like it went wonderfully. That... More and less the research assistants would be supervised by Beth or Chiara or by you or Bjarki that they would figure out everything they had to do, they would learn, they would share and that sector experts and other folks wouldn't be involved.
00:10:04		That certainly made it a wonderful, I mean just in terms of the structure of it that was fantastic in terms of learning new research methods and actually bringing these younger folks, graduate students into roles in which they were learning and supporting and probably changing the shape of their research going forward. So, that was fantastic.
00:10:37		But in the meeting, I feel like I sat down with Fiki. She had some questions about the SWOT analysis. And I, of course, had gone through the proposals and had my perspective. I didn't want to shape her perspective entirely but had some questions. But some of the proposals of the others were stronger.
00:11:00		And then I think Fiki and I both sat down with Beth to review comments, some of which were small. In other words, that... Well, not small but some of which were structural actually. Such as that a group had a clear proposal but didn't have a clear schedule and there was some question or concern about what research had already happened, what had not happened yet, whether in not being part of a group...
00:11:39		Whether they already had maps in process or progress or whether that was something that they would want additional support or not want additional support. The sort of tip-toeing around not wanting to... Not seeing the material they had created and not wanting to make any assumption or dictate or teach if it was unnecessary.
00:12:03		With folks like Professor [unclear] who are super high-powered fantastic folks at the top of their careers and probably may not need anything from us. So, it's a sort of open question and I think the groups responded to that. And that was terrific and the

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		proposals [unclear] Buenos Aires.
00:12:28		And part of the proposals, the 37 or 41 that went forward, it was a delight then when it eventually happened. And it was on Zoom, so it's after March of 2020 when we had an initial everybody online meeting. And I guess that was probably April or May because it seems like it was early on in the figuring of the breakout groups and doing [unclear] from different groups.
00:13:06		And at that time I was still doing the individual Zoom. So, it was quite... Oh, we were also doing Figma or Miro, one of the...
	DM	Yes, Miro.
	KB	Yes. And they're just so wonderful, such fantastic minds, such fantastic proposals.
00:13:30		And it means, again, selfishly that it drew together people from the Carleton community who could learn more about each other and also hopefully find new ways to do our own work that are more connected to and sensitive to... I think by then it shifted to Gendered Design rather than Gendered Innovation.
00:13:57		And I remember the first speaker from Carleton that was a little concerned because she was talking about [unclear] and I thought, I hope [unclear], I hope he didn't lose the [unclear]. But one of the earliest speakers in that workshop discussed more of the hard sciences and referred to STEM [unclear]. But then it did shift over and I think in the working groups it was interesting but also so hard to...
00:14:39		I think we tried to do the little Post-it's in Miro and to write our ideas, I think of what Gendered Design is. I think that's what it was. And it was such a fantastic sharing but also so much harder than our initial induction meeting.
00:14:59		In other words, folks were all over the world so it would have always been virtual. I assume we wouldn't be flying people from all over the world. But at the same time, I had so many questions in part because I am not a Spanish speaker which is too bad.
00:15:25		I feel like if I were a Spanish speaker I could have just Googled some of the teams and looked at their past research and probably would have the Professor [unclear] and [unclear] and all of these. I'm sure they have a huge amount that's already

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		published. And for me, that was the tricky and always missing part is that I didn't know what they'd done.
00:15:56		I knew they knew more than me about Gendered Design most likely and would like to defer to them but also was missing that part. But I think it probably came through so many other people at the core of the project. I was missing that part of being able to engage directly or ask those intelligent questions that might actually be helpful. So, in that sense, I felt more of a beneficiary, to be honest.
00:16:30		I did not feel like I was particularly helpful. But I did feel like I certainly learned and benefitted from what was shared by the researchers who are participating in that. So, that, I think, I'm not sure but that may be the last even that I participated in on a partial leave...
		<i>Some parts of the interview retracted.</i>
00:20:04		The core project team to do such fantastic reports and documentation it was clear that things were going very well. But otherwise, I felt a bit helpless and disconnected from the whole thing. I know in summer of 2021 I did meet with Natalia Escobar Castrillon and she agreed to shepherd or oversee things for the next year and was a Spanish speaker, which seemed positive.
00:20:40		She also was probably more intensely sceptical. I don't know, she can speak for herself but I believe that Natalia is from Spain and she had a real sense that this may be a colonial project. Why would I be telling someone in South America what to do?
00:20:59		And I did try to reassure her that they won't be any telling what to do, it's really their resource that's needed. Natalia, as a new faculty in a way it was [unclear] and I'm sure she like me, when I arrived, was overloaded with everything. So, I didn't hear from her at all during the year so I don't know how things went between August of 2021 and really a few weeks ago when she asked if I could reconnect for the conclusion of the project.
00:21:32		And I feel delighted and so lucky to be able to see the reports. I forget the group number. The group [unclear] their final reports

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		are so different.
	DM	41 is a campus one and 37 is the childcare one.
00:21:58	KB	Yes. And I'm sure there will be another question about those so I won't move on to that. But I have read both of those, I'm delighted to read them. And mostly I guess I'm glad that despite the radical shift to how this would work with the shift to virtual because they were able to complete some type of report.
00:22:23		It does seem that Buenos Aires, the university one, I assume because of the shift to virtual it feels more preliminary and more like a gathering of data that might lead to more concrete... How would you put it? Questions or conclusions but also their report switched over to Spanish halfway through. So, the last 100 pages are in Spanish, so perhaps that's all there and I didn't get to see it.
00:23:00		But it's just an impressive amount of these questionnaire responses. Though an effective questionnaire asks all the questions about that as an operation, how the whole thing worked. But again, without being able to fully read or access their final report I don't really know how that went.
00:23:25		So, that's start to finish. I'm sure I've forgotten a variety of things. I feel like there probably was one other workshop in there that I was able to attend and I don't remember.
	DM	The workshop, just in case it triggers your... So, there was one workshop on gender led by [unclear] and Chiara with notions of gender. That was in the spring of 21. And then there was a workshop on prototyping at the end of the summer, I think of 21.
00:24:00		And this is in addition to the introductory workshop. So, If you...
	KB	I think I was at the introductory workshop and then the gender workshop so I would not have participated in the prototyping one.
	DM	Good. So, thank you that's really detailed and nice. So, the first theme on which I'd like you to come back is your profession. So, you are an architect and you...?
00:24:32	KB	KB No.
	DM	Sorry?

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	KB	Not really, no.
	DM	You're not really an architect. You work in the School of Architecture and you mention in your story that the reason why you think Bjarki reached out to you is because you were already involved in this group who was working in an interdisciplinary way on questions of equity and the built environment.
00:24:57		And so I'd like you to talk about how does that programme figure in your thinking about your profession and your discipline or your disciplines, whatever they are?
	KB	So, I guess I'm a two-sided person. I do have a professional degree in architecture so the degree that would be the more or less starting point for licensure.
00:25:32		I did not become licensed as an architect. I did a PhD on architecture. A PhD in architecture is a diploma, it's history in theory so it comes through... Even though it's called a PhD in architecture it would be in... I'm on the theorising side and the historian side.
00:25:58		And my work has to do with cities in relationship to changing ideas of bodily health and changing ideas of environment.
00:26:15		And the sorts of interventions that are made infrastructurally in terms of the larger built environment and how these shifting ideas about bodies and about environment have historically from about the late 16th century to the present very often influenced what we see as a solution-based thinking in response to crisis in cities based on usually a somewhat limited and always changing idea of how bodies and environment work.
00:27:00		So, that's what I do. And in the group with Ozayr, c-url, the Urban Research Lab, the core of my work that helps me to not look at everything all at once is to look at water at the centre of things. Which may be water as in coastlines or maybe water as in rivers or water as in water supply, the actual hard infrastructure for drinking water, flooding, drought, etc.
00:27:28		So, for me, that's the centre point and then issues of equity that are always inseparable from where and how that is deployed. So, for me, to be honest, the issues of class and so-called race and sort of racialised people, marginalised people has always been more central, embarrassingly since I am a cis-het woman, person.



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00:28:08		More central than gender
00:28:13		<p>And so the unavoidability of gender at the core of all of the things that are in my work I think I have only addressed when teaching mostly in terms of some of the issues of gender roles around things like water gathering and the shift of patterns of communication, of socialising, of motion outside and beyond the house with the shift from gathering water at a fountain or from a river to pipes bringing water into a house.</p> <p>And so that's a core moment that has to do with gender and radical transformation of cities and urban life.</p>
00:29:04		<p>That is something that I teach and that everybody knows about. But in terms of more broadly speaking, I guess the gendered idea of nature and sometimes the gendered idea of water is something that comes up, that sort of again gets a little bit sterilised with the industrial infrastructures for water.</p>
00:29:34		<p>So, those sorts of things which are big-picture I certainly think about. But the day-to-day issues of particularly other infrastructures, the water and the construction of a clean female, domestic, Victorian body, an emblem of modernity, of being able to take a bath, again, that's unavoidable.</p>
00:30:07		<p>But I think the persistence of gender as a core issue from the minuscule to the vast is something that I had not put certainly at the forefront when I spoke about equity.</p>
00:30:25		<p>It was more about class and racially marginalised people. And I'll admit that the perception of architecture, I've spoken on issues of gender in that profession and there are crushing inequities vis-a-vis gender in part because of the way that the profession is structured.</p>
00:31:02		<p>The expectations in terms of time that actually eliminate the possibility of participation for anyone engaged in caregiving. So, that's something that I have talked about, I'm aware of and is certainly part of the reason I am not a practising architect because I have been very invested in having the ability to be anchored in a community and give care to my family, etc.</p>
00:31:29		<p>Not to be going the hero's route, working till 2 AM without additional compensation on a consistent basis. So, I'd say in the urbanism, the sphere of looking at cities, environment bodies and infrastructure it alerted me to a way of my own desire for gender equity. Had someone put blinders on and say, I'm fine</p>



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		with targeting the profession of architecture [unclear] of gender but it had slipped away somewhat from my larger look on cities.
00:32:25		So, for me, revisiting and reintroducing that and the way of reintroducing that, thinking has been to simultaneously gender and degender. An essential concern of the stuff that I write about or think about which is those questions of care and cultivation and that is often gendered.
00:33:00		But with the sense that modern infrastructure and this modern disposable culture, the culture of washing away sewage to nowhere and getting water from nowhere, and these sort of invisible pipes eliminated some sort of thinking about care and cultivation and gave us a false promise of what was possible and what could be intimately a type of industrial progress that was predicted to be incidentally expandable that certainly is not.
00:33:41		So, revisiting and returning to questions of care and cultivation and the ways in which that may now, especially in times of climate change, increase fluctuation in terms of floods or droughts or contamination of water sources.
00:34:02		The way of revisiting of these dismissed ideas that to actually keep water or keep clean or maintain health but they can't be outsourced. And some of the hope of that industrial large infrastructure era was an elimination or erasure for certain types of practice that may have or were traditionally gendered female.
00:34:35		So, relooking at that has been really important to me and it's something I've just started to write about it in a book that came out in May. I did a chapter on Louisiana, New Orleans where I taught and lived for three years prior to coming to Carleton.
00:34:59		And I have delayed writing about a lot of stuff because I didn't feel I had the distance [?]. And I think the GDS project helped me begin to refine some core elements of that that aren't exclusively or strictly about gender. A lot of it is about a legacy of slavery but it is not separate. So, that was to me and my own work very helpful.
00:35:31		To me, the more close to home and more pressing question, in a way though. Not pressing. In my own work, I'm excited to see how I can continue keeping this closer to the heart of what I do.
00:35:51		But my actual continued question I guess is just a bit more mundane is what does it mean to Carleton because especially being under the umbrella of engineering but our school is just

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		the School of Architecture and Urbanism. And also it has the conservation stream. We have a gender equity on faculty.
00:36:28		And I know engineering is always striving that way but I do have a feeling that I wish that some of the thinking and structures and intelligence and questions at the core of the GDS project could be [unclear] more badly applied especially in the Engineering Department but certainly more broadly in Carleton.
00:36:59		And I know we have our diversity, equity and inclusion offices and they're huge efforts in that direction. But I also wonder again, for me, going back to the questions about care and cultivation. What seeds that came from this...?
00:37:27		Well, for me, it came from this project. Are possible to cultivate more fully within our university? Because I do hope that there will be some continuation of work in this direction.
	DM	Great. So, that's supposed to be my last question, I'll ask it now. I'll go back to other things before or after.
		So, if you would you were just given complete...? Could you dream about [unclear] you sit down there and you say, okay, what would you do if you could, what would you do to do what you say?
00:38:04		To take some of the seeds you've identified are promising and work further?
	KB	I already have an acronym. Well, I would love to have a Carleton Gendered Design group. What would that be? CGDG?
	DM	So, after GDS?
00:38:28	KB	[Overtalking] Gendered Design group because I do think the idea... This is something that probably and certainly I think did in this project, more productive. And I think productive because more concretely grounded in the real stuff of everyday life that we encounter. More conversations between the STEMS and the STEAMS which I think is lacking at Carleton.
00:39:06		For instance, a Gendered Design group could look to start at the campus. I feel like we have zero or little input on campus design. But when you walk around the campus there's so many things in terms of the standard design that could be other, that could be better, that are physical and real and anyone student or faculty could think about and talk about.

Time code	Speaker	Text
00:39:34		So, just taking a cue from the Buenos Aires group, does certainly not... I don't think an effective quiz model is something that might not be as useful as carving out particular areas that are challenging or difficult or that offer potential in asking questions about can we have input on how to prove x, y or z.
00:40:05		But also a group that would be able to assist and support in some ways students in particular projects that would be able to students with faculty that would be able to have this project is done.
00:40:29		Support a use of this lens in really any type of work because I think it's applicable to almost everything if not everything, so.
	DM	Good...
	KB	That would be my first thought.
	DM	What about thinking of the other stuff like the connections with people in the South? The project, other dimensions of it? Or even more support or even if you dream of what would be possible for the two projects that you supported?
00:41:09		Even think more broadly about... So, the introduction to that question is that come December 2022, Katie, we have no idea at all where that is going. We might fold the whole thing. Here's the website, we have a very nice website which is archiving of the findings which is also giving possibilities of networking because all the information is there.
00:41:36		We've got archiving of all the stuff, so the findings are there for people to continue. And we could say, well, there it is and then to all the actors involved go your separate ways or go your common ways but away from that core team. Or we could do something, we could do some more synergies between some parts of that programme.
00:42:04		But we have not presumed of any sequel. So, that's why we're asking that question broadly.
	KB	The thing that was thinking about when I was looking at the final report for the Buenos Aires and the [unclear] team was how wonderful it would be if it were even if it were virtual since they are based on urbanism and physical design and architecture.
00:42:40		To have a small... For us in architecture and urbanism, to have a small symposium on the topic where also potentially others

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		who work in this area like Jill Wigle and others might present their work.
00:43:05		Because I'm not sure and maybe that's going to happen later this year but the sort of conversation with a broader group like students who are not involved in the project and with other faculty who have interest in this area might benefit and learn something or might have something to share.
00:43:30		I feel like having many topical symposiums that would allow the folks coming from [unclear] the research paper, those are in DRS?
	DM	Yes.
	KB	Paper. [Unclear] the South.
00:43:53		But having some capacity to have a conversation and a sharing of that work outward with a broader community whether Ottawa, whether Carleton, whether Architecture and IT and others would be really beneficial on this end.  I don't know on their end if they would find that useful or beneficial but I would certainly be perfect to be able to have more conversations because I certainly have questions and I feel like there's a lot to learn from those groups.
00:44:29		But also that sharing back some other projects that are separate and other than that might give more of a student to student or researcher to researcher or PhD to PhD type of connection that would be truly beneficial. So, I have been thinking about that because the topics would be such great ones to talk about in the architecture and urbanism programme.
00:44:55		And then beyond, beyond, again, I would wonder what if, I'd still wonder what is the best way, whether it's sort of things that can be helpful, for instance, speaking theoretically other people say they're helpful but I haven't done them that often. But I guess I've done a few, but writing groups or research groups where once a month you can come together.
00:45:36		I wish... Zoom is fantastic for a lot of things and hopefully, I'll be back to using Zoom at some point with the full visual. But I do Zoom meetings in audio and it works fine sharing documentation in advance and then just discussing documentation.

Time code	Speaker	Text
00:45:54		The idea of having a voluntary working group for folks to float different small pieces of work where you can just bring a couple of pages or an abstract or something like that to talk about issues of gender in a question that you're considering, in a piece of writing or research. I feel like having a writing and research group that was also STEAM, that we didn't just [overtalking] would be really pretty magical and exciting.
00:46:37		<p>Even if it was again, my fantasy gender design group at Carleton. If you could have and guide and connect and continue to connect with people from this project and others that they invited.</p> <p>But if it were something that worked you could have occasional, more formal presentations where someone has 40 minutes to give a paper and get feedback.</p>
00:47:03		And more informal working groups where folks get together on Zoom and everyone shares something that's really a bit short or you work out some way of structuring it. That helps you with the thinking part where it's not at the point of publication or a complete thing, but where you really get other people's minds and eyes and voice to help with something. And to me, that would be fantastic.
00:47:36		In my fantasy, there's too many people involved. You have to have multiple parallel groups. But even a small group of folks who wanted to continue to think and work that way even if it's once a month and maybe one month you're just listening, you have nothing to share, I still think it would be fantastic. Because it is more... It's always important but it's looking like the world is going retrograde all over the place.
00:48:05		So, really staking out the territory and fixing the territory permanent and refusing to go backwards and refusing to categorise and stick women in some limited sphere I think is more important now than ever. So, I'm hoping. I certainly would participate and assist in the organisation should something go forward.
00:48:32	DM	Good. So, your answers were very long and touched on just about everything I wanted to talk about so I thought the next thing I could do is to tell you what were the other themes that I wanted to stop and think about so that you could maybe... I'll just give you my shopping list. If some of these themes trigger even more stuff than what you've already said. But you've

Time code	Speaker	Text
		already said loads of stuff.
000:49:01		So, I asked you initially to talk about your profession. So, one of the things you spoke about indirectly, and you may want to come back on is what I'm saying, is transdisciplinarity. If that project in your general thinking about transdisciplinarity confirmed something, opened up something besides what you've just said because you said a lot already? So, that's one theme.
00:49:26		The other theme besides transdisciplinarity is the relationship with communities. If this programme confirmed stuff that you, your relationship with people like Carleton, your relationship with your RAs, your relationship with your two projects and your participation in these workshops did it confirm, change, open up ideas about your relationship with communities?  You spoke at length about your understanding of gender before, during and after but if there is other stuff you would like to say about men, women, families, generation and all of that? So that's three.
00:50:03		So, that's transdisciplinarity, community and gender. Four is making, and again you spoke a lot about this. So, this project has stream and one of them was just to do some case studies and others were to do a case study and to prototype. So, the whole business of making and research would be a fourth team.
00:50:26		And then a fifth team is teaching, say because you had RAs, you brought your two different RAs with whom you worked otherwise. If you have anything to say about teaching? So, why don't you just do whatever you want in the time we have left? And I'm happy to stay another ten minutes or so if you want to, listen to whatever you might want to say on one or two or five of these things.
00:51:01	KB	Okay. Well, I think I've commented on all of them to an extent. My work is transdisciplinary. I do think because I was not participating for the last year the thing that I would have found interesting is... Well, I guess can, I can go to the website, all the material is there.
00:51:34		But to hear more conversation and participating in conversation between groups that were doing things with different methodologies that might be more [unclear] and others that might be on the STEM side of STEAM. That might be more hard sciencey as it were.

Time code	Speaker	Text
00:52:00		But I think that... I guess I don't have much more to say about that. For community, I have hopes that there's some element of this community that can connect in some way. How it might work within Carleton and again, it seems like something that in a way because of the structure where the sector experts are more tangentially involved later on I feel like I have less of a handle.
00:52:36		<p>Though I've read the reports and the bulletins and whatnot on how things went, how things were connected, what sorts of challenges and victories people had.</p> <p>But again, in terms of the how do you look forward, for me, that's a lot about strengthening things within the Carleton community to make us more robust, reliable, respectful, responsive and sort of potential partner for engaging outwards and connecting with folks who are in the so-called Global South.</p>
00:53:17		And for me, I've done projects and connected with folks in India and if there were more resources and connections on campus so that if I'm talking to partners and a faculty member there and I'm not the right person to be helping with the project but I could make introductions and know who might truly be interested with this as a core or a lens for work.
00:53:46		I think having that type of community internally at Carleton and the core team, you and Bjarki and Chiara and others that really set up such a robust structure that the idea of having even a fragment of that going forward to maintain community and maintain openness, receptivity to connections in the so-called Global South and elsewhere would be fantastic.
00:54:19		In terms of gender, I think the main thing is as I said that I realised that I had stepped away from in that transition, in my interest in the transition from pre-industrial to post-industrial ideas of bodies, cities and environment.
00:54:36		The degree to which there was an erasure of certain roles or a hope for an industrial replacement of certain roles that were liberatory to bodies gendered female. But the meaning of the obliteration of those ideas, that care and cultivation is something that for me is more important to think about than ever.
00:55:06		And the project certainly helped with making... I think the [unclear] group made maps but I think those two groups were not prototype groups, correct?



Time code	Speaker	Text
	DM	No.
	KB	So, in terms of the case studies what's interesting is how hard it is working remotely when someone's doing an effective study of different spaces that you can't see.
00:55:45		And you often don't know exactly how they operate and don't have drawings. I do think that there is a way in which, certainly in architecture projects like that one are...
00:56:01		Even digital modelling and digital prototyping in response to critiques or hopes or wishes for particular spaces is something that I think would be really interesting. I don't think you can effectively actually read digital space that effectively even if it's very well-designed.  But that question about prototyping is one that is interesting or making, it's certainly central to architecture.
00:56:35		But [unclear] this project that I wasn't really connected with. In terms of teaching, I think I pretty much covered that but I do think in terms of anything that I teach it's re-sparked and refocused my attention and my thinking to recognise the value and the validity of this as an anchor point to consider really, any topic.  So, I think that's about it. I'm probably just reiterating what I said before.
	DM	Good, good. So, is there anything else? I want to say a few things but is there anything else you would like to add otherwise?
00:57:30	KB	No. I'd just like to say, I have been just, I think impressed sounds very shallow but just struck by the care with which all of you have put together the information is then fantastic speaking of design.
00:57:59		Actually, the clarity of keeping all of us connected and making possible more connections if we would like has been very fantastic and I appreciate that. And I can't imagine, again, through the pandemic how challenging a lot of this must have been. So, thank you for doing all of that and thanks to your whole group.
00:58:30	DM	Well, thank you for...



Time code	Speaker	Text
	KM	But I have nothing else.
	DM	All your ideas. But I'm going to finish by a few things that are funny coincidences. So, one of them is that next fall... How can I say that? You were talking about your expertise on water and I just want to tell you, so I'm on the Joint Health and Safety Committee and because of that, I speak to the people who do snow clearing at FMP.
00:59:05		And I talked to them because we were talking about the difficulty of using non-harmful methods for de-icing on campus because how expensive no salt stuff is.  And so I said, luckily I had [unclear] with elevators and disability.
00:59:31		I said, why don't we do a little research project where we could test stuff because there we have this huge campus, lots of places to put salt on. And we could help you in whatever way to at least maybe find ways that would be less costly since there's only so much non-salt methods they start to do. They're all happy with this so we put it together. And I didn't even know you were doing water.
00:59:58		So, here I am. So, I called our colleagues in geography and so now there's four of us, including me who will include a bit of salt project in our classes next fall and winter. And my one will be in my master's seminar on the history of extraction of natural resources. I will have one week on salt and I will have a month of applied history to help FMP situate their actions in trying to do non-salt stuff.
01:00:35	KB	Interesting.
	DM	And then there will be people in geography who will do stuff that are more applied like testing things in the winter. Anyway, and so as we were looking for that I discovered that the former Ryerson University, the Metropolitan Toronto University has had a whole project of that nature where they have linked their operational part with the more academic ecological, environmental part to actually do a less sale more environmentally friendly campus.
01:01:15		And it's very much linked, as you'll probably appreciate, with water.
	KB	Yes.

Time code	Speaker	Text
	DM	So the people in geography...
	KB	For us, [unclear].
	DM	Exactly.
01:01:26		So, the geography people who are working with me now are water people. And so that's one thing that fits two things you were talking about. But then you were talking about campus, like why don't we start with our campus? So, that's the salt bit, it's one of them. Nothing to do with gender that bit.  But the other bit is that I am on the Joint Health and Safety Committee because I am on [unclear].
01:01:56		And I started because there was nothing explicit, a small ad-hoc group on disability and access and following that thread over a few months ended up being actually more than we hoped for. Involved in their new Carleton Master Plan thinking which is just talking on questions of access and disability.
01:02:26		So, I'm thinking, if you... Because I never thought about this you were saying what if the Argentina model or findings or something could inform a better reflection on gender on campus? And so there you have it. I just think because they're only starting to consult so my thing in the spring is I spoke to these people. I arrived there because I wanted to speak about public transportation really.
01:03:00		So, they finally said, well, you should speak to these guys because they're just starting their consultation for another five years of thinking about space on campus. So, we went to talk to them and all what we wanted to do because we didn't want to presume what [unclear] wanted was how do we intervene the best possible way when you start your consultation?
01:03:25		But they got more interested than we bargained for because they had already had this firm which they subcontracted to do an audit of accessibility and now they were very interested in hearing what we had to say even before they started their consultation. So, I'm just saying maybe it's a good moment to think a bit more fast than you thought about gender on campus and to...
01:03:54		I'm meeting them later in August, maybe keep you informed of what they're doing so that you could actually maybe signal the things at the very least you've been doing with Buenos

Time code	Speaker	Text
		Aires. And maybe they would be interested.
	KB	Well, that would be great. I'd be delighted to participate in any way that's appropriate and welcome. I'd be super interested, for sure.
	DM	So, what I could do at the very minimum is hi, whoever their name is, here's is Katie. And say, she's been working on this with...
01:04:35	KB	Yes. You know what the other thing that all of this connects to is the... It's hard because it's even faster. Is the question for decolonising campus or someone in a meeting we had said re-indigenizing campus.
01:05:01		And I suspect most of those questions posed that way may become instantly problematic or offensive. But the true fact in terms of our campus versus other campuses is that there is a strategy, it is an area where the question of ecology [unclear] access and disability come together and have to speak to each other.
01:05:34		And that is, in a way, to make it so that campus is more accessible or as accessible as possible.  The campus relies very heavily on 100% hardscape. In other words, it's just asphalt everywhere. So, there's already too much water that's just [unclear] at a high speed that isn't being captured on campus.
01:06:00		In other words, the asphalt does make it easier, for instance, if you have any mobility issues probably to move more smoothly. Salting in theory is that thing that removes the ice, again, increases mobility. But the actual radical shift is that if you have, again, they're more expensive but they actually can be accessible and can work better.
01:06:28		If the thing that you're moving on is not this impervious asphalt that just collects the water on top of it, but if a pervious pave or something that allows water and snow to go through it that is better for the watershed, it's better for everyone. And it's, in a way, getting rid of some of this massive hardscape that Carleton really embraces.
01:06:56		It raises the question though of what's the... And for facilities, like what's the way of maintaining it, what the cost of maintaining it, can we use our equipment to maintain it? Similar question if you have pathways then are intentionally planting

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		trees alongside and above them but you have this issue that you end up with people leaf blowing and doing all sort of things to try and get rid of all the pine needles and leaves or whatever the situation is. Because there's this idea that everything has to be clear and 100% accessible.
01:07:31		But in the study, and I wonder what Ryerson is doing, clearly if you have any canopy over a pathway then there's less snow on the pathway and there's less rain on the pathway and there's more wildlife on the campus and there's more carbon capture on the campus. So, I think that push and pull and that balance between the supposedly secure and certain means of accessibility which is 100% asphalt, 100% salt, clear everything over time and use machines.
01:08:06		The questions might be, how do you look at the whole campus and think... You might, for instance, have things work different in different places and what does that mean for accessibility? Anyhow, it's a bigger question but I'm interested in it. So, if there's any way to stay in touch with you [overtalking].
	DM	Yes, that's great. So there's two things here.
01:08:28		So, I'll contact you on both things. On the salt group and in the... But I won't even introduce you to the Master Plan people because that's two different projects. [Unclear] before telling you.  So, I'll send you an email to say, what if I send that to these guys? And then you can tell me if you like it or not. And I can also send you a bit about salt because if you could interest some of your students or something about that dimension of it, it would be marvellous. The radical way and your notion of hardscape.
01:09:04		And if you have any literature you want to send me that would be lovely. The other thing that I wouldn't mind having, and I can find it myself, is if you could send the article on Louisiana you wrote that you mentioned during our conversation that would be lovely.
	KB	Sure. It's in a book but I do have a pre-proof PDF of it that I could send to you. I think it still has one or two glitches that were caught in publication.
01:09:36		But I do have a PDF I can send you.

Time code	Speaker	Text
	DM	That would be lovely. I'll stop recording now because we've spoken.



GENDERED  
DESIGN IN  
STEAM

## Interview transcript

Interviewee:

Tracey Lauriault | Associate Professor, Critical Media and Big Data,  
Journalism and Communication, Sector Expert projects ID38 and ID50  
Carleton University

Interviewer:

Dominique Marshall | GDS Principal Investigator  
Carleton University

Date of interview:

21 July 2022

Transcribed by:

Way With Words

## Tracey Lauriault - Sector Expert projects ID38 and ID50

**Speaker Key:**

DM Dominique Marshall

TL Tracey Lauriault

Time code	Speaker	Text
00:00:00	DM	Okay, so the goal of the conversation, really, is to record your journey with the programme Gendered Design In STEAM, and what it's done for your own research, but what you see it's done for the research of the two projects that you're in charge of, and what's it's done also for Carleton in general.
00:00:27		So, the main question, really, the first one is for you to tell me the story of your involvement with that project.  You start whenever, you stop whenever, and you just tell the story of how you saw your involvement in it, and how you saw the project. So, go on.
	TL	Okay. So, at first, I was introduced to the project with the initial meetings. I can't remember when they were, but those first meetings where we met other people, and we helped shape, I think, the proposal.
00:01:00		And then the proposal was accepted, and work was to begin, and different sector expertise was developed, primarily sorted out by the main proponents of the project.  I had indicated, very early on, that this was always going to be tangential to what I do on a day-to-day basis.
00:01:28		And in fact, I think you'll recall, I tried to leave the project many times, and you kept persuading me to come back, and I kept coming back.  And it wasn't that I didn't think of it as really important. It's just that I knew that I couldn't commit, intellectually and time wise, in ways that I would like to have contributed, because of too many competing demands on my time.  But because of your interventions and conversations, I came back.
00:01:59		Through many conversations, through I think a little advisory group, I'm not sure what that group was called, where we met a

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		<p>couple of times with other researchers, we had some good conversations.</p> <p>But the conversations often, which were excellent, but I did not have follow-through on a lot of those conversations. And I did not follow through by contributing knowledge or research beyond those conversations, again, because of time commitments and so on.</p>
00:02:30		<p>The other thing that was interesting for me, I think there was a change in staff, in terms of I think the coordinator changed.</p> <p>And when the coordinator changed, I think some context disappeared. And so, the handover from one coordinator to the next coordinator left me out of the loop for quite some time, so I didn't get brought into many things.</p> <p>And so, by the time I think the second coordinator figured that out, many things had happened that I wasn't really on top of, because I was kept out of the loop.</p>
00:03:04		<p>Not purposely, but stuff happens, and you get out of the loop. And so, I didn't always personally think that my contribution was particularly useful or great, because I didn't commit in a way that I would've liked to have committed.</p>
00:03:27		<p>Which I think says something to maybe a maturity in scholarship.</p> <p>Now that I've just finished my sabbatical and I've moved to associate, I now understand that it's okay to say no to stuff. But I didn't really know what it meant to say no, or I didn't really say no in a firm way to things.</p>
00:03:57		<p>And I kept leaving it open, which meant that it was always a dangling commitment in the back of my mind, as I'm supposed to do something here, but I'm not doing something here.</p> <p>So, that's, I think, some broad context to connect. And then there were a few interactions. I won't say the name of the person, mostly because I can't remember them, their name.</p> <p>Had some very unusual interactions on some of the meetings that we had, and I think you know who I mean and what I mean.</p>
00:04:28		<p>And I never really fully understood why that was the case, or what had happened to provoke that negative pushback from that person, but something happened there that I didn't fully understand.</p>



Time code	Speaker	Text
		<p>But the interventions of yourselves, and the others in the project, were very good to ensure that more collegial conversations occurred.</p> <p>At one point in time, there were some research assistants that were assigned to the project.</p>
00:04:56		<p>And I will be very honest, I failed to actually supervise a research assistant in what I think would've been an accountable way of doing so, but also knowing that that research assistant, their work and their time was also being occupied in other aspects of the project.</p> <p>So, I didn't feel like I'd let them down. But what I found interesting and, in hindsight, I should've considered it a bit more, I wonder what the research assistant thought about reaching out to someone who didn't always get back to them.</p>
00:05:35		<p>Or, how did they feel about very little feedback in response? Did they think that I was a lazy louse, or did they think it was just a power dynamic, that I was ignoring them? I don't know.</p> <p>But I should've considered those things more carefully. But one thing I would like to say is, I hope that I didn't let those research assistants down.</p>
00:06:00		<p>Although I know that they're very smart young women, who were doing very interesting work in their own right, in other things of the project.</p> <p>I also met some of the people who submitted proposals and research projects to the project, and they were very interesting groups, mostly from Asia, which was nice, because it's an area that I have some knowledge about, and some affiliation.</p>
00:06:28		<p>And when I met them, the conversations were excellent. At the very inception of their projects, we had some very interesting exchanges.</p> <p>But again, a failure on my part to follow up properly with them. I exchanged a lot during the encounter, but I didn't necessarily follow up with them very well, and I probably let them down a little bit.</p> <p>And so, to you and to the rest of the people on the project, I apologise for that.</p>
00:06:59		<p>But again, it comes back to that notion where I think I knew, I really knew that I couldn't commit the way that I wanted, and it's</p>

Time code	Speaker	Text
		<p>clear by my behaviour that I didn't. And I probably should have stuck to what I did.</p> <p>Now, the recent report has just come out. I cleaned out my email box last week, from 2,500 emails down to 89, I think, right now is where I'm at, and this is one of the emails that's highlighted that I need to read that report.</p>
00:07:31		<p>And I think I have to provide some commentary for it, and I will take a look at it.</p> <p>And of course, on the horizon, we're going to have a meeting where we're going to see the projects being presented. And I think it fits in my schedule. I can't remember what the dates were, but I'll take a look at those things.</p> <p>So, in other words, there's an expression in Japan. When a lot of foreigners come, they can't afford the train ride.</p>
00:07:58		<p>So, they pay a little bit to get on the train, they ride for free, and then they drop some money when they get to the end. It's called the empty pipe.</p> <p>You're there at the beginning, and you're there at the end, but there's something missing in the middle. So, I think I'm that person. I'm that empty pipe person, where I'm there at the beginning, I'm there at the end, but I've contributed little or nothing in between.</p> <p>There's an element of, in my case I think, a little bit of guilt, and that thing of where something's hanging that we haven't done properly.</p>
00:08:32		<p>So, for that, again, I apologise. But I think, when I look at the intentions of the project, the intentions are great.</p> <p>I haven't looked at the report to say, or witnessed the presentations, but I imagine the intentions were great, and I imagine the outcomes are going to be equally interesting. And I'm looking forward to seeing what the learnings are going to be, as a result of this project.</p>
00:09:00		<p>The other thing, in hindsight, is perhaps my utility would've been better in my case, and I was the one, it was my agency to shape it that way, and I didn't take that agency to do so, maybe in an advisory capacity where someone would say, hey, Tracey, we have three things on data.</p> <p>Can you just take a look at these things to make sure they make sense?</p>

Time code	Speaker	Text
		And I would look at it and say, this, this, and this, and then I'm done.
00:09:28		<p>I think that might've been a better contribution of time, knowledge and expertise, than the way that I did it, because I really couldn't keep on top of all the bits and pieces of the project.</p> <p>What else can I say? I did, fortunately, meet someone in industrial design, Chiara, who I have developed a very nice relationship with.</p>
00:09:54		<p>And so, one success, on a personal level, can be that I've developed a research relationship with Chiara, who's also involved with a research relationship with one of my colleagues in communication and journalism.</p> <p>And we are also co-supervising a student. So, I don't think that would've occurred had I not had this interaction on the project.</p> <p>On the positive side of things, that is, for me, a very good outcome and a very interesting transdisciplinary one, between a critical data studies, critical design way of thinking, and developing another way and mode of thinking about design.</p>
00:10:35		<p>And that thesis is very interesting, indeed, and I'm looking forward to see.</p> <p>It's going to be taking a more intersectional approach to the Diamond Methodology in industrial design, and that's very exciting to see how that came to be.</p> <p>It initially was about critical data studies, but it shifted to more critical understandings of design.</p>
00:10:58		<p>But the critical thinking that comes from critical data studies, and the work that I do in my domain, is reflected through the critical perspectives that are in that thesis.</p> <p>So, could that thesis be considered an outcome of this project? I don't know. I would give it a check mark. If you were to look for things that are positive outcomes, I would look at the relationship-making, people meeting each other that would otherwise not meet, as good outcomes.</p> <p>The negative outcome, where I would give a zero, might be in how I helped overall in the shaping of the project.</p>

Time code	Speaker	Text
00:11:33		So, that's why whenever we meet and you introduce me as being a member of the project, I always say, yes, but I'm the weakest link in the project, because I like being honest about it.
	DM	Thank you. So, we will try to get rid of all that guilt by the other questions, because I think partly you overestimate how organised the thing was. And part of the project was to shape it as it went along.
00:12:00		So, it never was a firm endeavour. And in your email, 86, I could send you the article that the three of us, Chiara, Bjarki, and I wrote, about the shaping of this project.
	TL	I'd like to see that.
	DM	Because maybe you would feel more guilty. So, as you were writing, I was thinking, maybe what we failed in doing is telling people, you've done what you had to do, it was not that big a deal, what we were asking.
00:12:31		So, you did more than you think, proportionally, what you needed to do, than you're saying.  Okay, so now I'm going to ask questions that are more the whole story again, but more pointed.  If you think about the project, your contribution and what you saw or what you did, what you saw of it, and when you said the ideas were interesting, sometimes I wasn't a part of it, but what you actually witnessed or what you did.
00:13:02		Because you did more than you say. And you think about your discipline, critical data studies, and one of the prides of the project is to be transdisciplinary and to bring designers, people in social science and humanities and people in STEM to work together on something, in as meaningful a way as possible.
00:13:28		So, I'd like you to think about this programme from outside, but also from inside, and comment on that, from your perspective.  Where do you think it's interesting? Where do you think it was not interesting. Whatever you have to say about that thing.
	TL	I think the overarching commitment to that is very interesting. Very important to have that transdisciplinary lens, because it was in a way, from the lens that I brought, it was more a philosophy of technology.

Time code	Speaker	Text
00:14:02		<p>If you will, critical thinking about technology. And also, conceptualisation of how data might be produced and used within a project.</p> <p>What I did not see in the three projects that I witnessed, I can't tell you the numbers right now, because I can't remember, I'd have to go look them up, that within their projects, they weren't very transdisciplinary.</p>
00:14:29		<p>That's very interesting to me, because if it was computer science, it was computer science people and so on.</p> <p>So, I'm not sure how the locals, who were doing local research projects, became very transdisciplinary.</p> <p>And the gender reflections of the transdisciplinarity were also uncertain. That could be because, at least in my case, I didn't do a strong intervention in terms of gender technology and data.</p>
00:14:59		<p>But also, the subjectivities that might come from that way of thinking, I don't know if that was distilled or encouraged through the conversations within the projects themselves.</p> <p>They may have taken a topic that related to gender, or that examined women in different types of contexts.</p>
00:15:25		<p>But I'm not sure that there was a deep reflexivity on the composition of the team, the nature of the questions being asked, and whether or not gender or feminist types of framings showed up within the outcomes of the technologies themselves.</p> <p>And I leave that as a question mark, because it may have been the case that that is so, but I haven't seen it yet, because I haven't looked at the report. But based on my earlier interactions, that's what I saw.</p>
00:16:02		<p>At the same time, if we think about it, it's what, three years? Three and a half years? Something like that? A lot of stuff has happened in the world.</p> <p>So, for instance, the whole Black Lives Matter Movement happened in a very significant way, and more intersectional approaches to data and technology.</p> <p>Really important books became important narratives, books by Ruha Benjamin on blackness and technology, black and AI type of work.</p>

Time code	Speaker	Text
00:16:34		<p>A lot of really interesting movements in data sovereignty and data colonialism emerged, and also those conversations in the context of Canada and sovereignty and other things.</p> <p>And then, of course, the tremendous amounts of uneven effects, if you will, of COVID on people.</p>
00:16:58		<p>That was technologically mediated, intermediated, as well as data-intermediated. And how, often, the data did not reflect the variegated nuances of the differences in the world, and, or reinforced existing inequalities.</p> <p>What is important about that conversation is that it became more obvious to people. It became more of a, if you will, less something that was theoretical, but more real, more alive, and more practised and part of day-to-day conversations.</p>
00:17:34		<p>So, I think those things, when you think, none of us would've thought that this was going to happen in the last couple of years.</p> <p>And it did affect some of the teams because they couldn't go out and do qualitative research, for example, on the ground, because they couldn't meet people directly.</p> <p>And so, that's also something that I think needs to be considered, and then how are women more affected by the pandemic versus men.</p>
00:18:04		<p>Particularly since they're at home, they have to cook, they have to clean, they have to work, they have to take care of the kids. They have to do all of this other stuff, depending on the context of their family situation and where they live.</p> <p>So, I think those things are really interesting. I think I'm off topic now. I don't know if I am or not.</p>
	DM	You're not off topic. Soon you'll see why.
	TL	Okay.
	DM	Just to go back to, just on the discipline question.
00:18:28		<p>So, the way I'm hearing what you're saying, this programme was really on the edge of what you were doing.</p> <p>And from what you have seen and what you have done, it did not change much what you were saying generally, but it confirmed. It goes in directions that are otherwise confirmed by what you witnessed about...</p>

Time code	Speaker	Text
00:18:58		When you said transdisciplinary did not seem to happen in the two teams you saw, I think you saw the Pakistan one as well, and the Malaysia one?
	TL	And the Malaysia one, and there was another one. Wasn't there one in Indonesia?
	DM	There was one, yes. And eventually, I think the Indonesian one was taken by someone else. So, Malaysia. Let me just see what they were.
	TL	Malaysia and Pakistan, for sure.
	DM	Pakistan was women and harassment at work.
	TL	That's it.
00:19:29	DM	Malaysia was old women and technology. And then the other one, just let me see, which eventually somebody else took over, but you might've seen at the beginning, was improving the design process for housing and public space. No, sorry. 73, it was? Is it?
	TL	I think so.
	DM	No, but that was Rwanda. It was Rwanda. Why would you have done it?
	TL	It wasn't Rwanda.
	DM	Just a minute. I'll find it here. I put it here. So, you did already 73.
00:20:00		No, 30. I only have two for you. I have Malaysia and Pakistan. So, if you did Indonesia as well...
	TL	I might've just read it. I'll have to go back in time.
	DM	Read it, yes. Anyway, okay. Obviously, so this idea when you did not see transdisciplinarity, is it something that you usually witness in programmes in these regions?
00:20:34		Or were they particularly jammed there? Or is it something you expected, the lack of fluidity or the lack of learning over the three years about that?

Time code	Speaker	Text
	TL	I don't know about a lack of learning. I can't speak to that at all, because I haven't spoken to those actors.
	DM	No, but okay, but say suppose. Not much. Suppose, assume, up to what you know.
00:21:00	TL	<p>I cannot say about regionalism. I really can't say, because I haven't done an investigation, empirically, on those dynamics on a regional scale. And one project does not represent an entire region, so I can't say anything about that.</p> <p>But what I can say, that is very common, or that was very interesting, was about gender and technology. But I don't recall having a strong conversation about gender, gender identity, intersectionalism, gender and data.</p>
00:21:31		<p>Those kinds of conversations didn't occur. It was about women, mostly, on the projects, but not exclusively, doing research about women and their interaction with technology and data in some way.</p> <p>But that doesn't necessarily imply a critical reflection, like identity politics or situatedness or subjectivities. So, I can't say that those were conversations that I had.</p>
00:22:01		<p>Now, since that time, a book has come out, that is fantastic, called Data Feminism by D'Ignazio and Company.</p> <p>And in it, it has a fantastic framework on how to assess whether or not what you write, or the projects that you're working on, have a feminist type of perspective.</p> <p>And had I had that earlier, I would've just given that to people, but it didn't exist earlier.</p>
00:22:31		<p>It came out later. And I didn't have necessarily the wherewithal, or I didn't make the connections to say, hey, check this out. People ought to look at this.</p> <p>So, that's my fault. I should've sent, this book and this framework would be useful for this project. I didn't do that.</p>
	DM	I remember you saying early, that part of what the problem you're describing, I remember you saying that, is that by the time you arrived and the applications were made, and given how small the period of the project was done, a lot of those questionnaires and the the scope of the project, it was already too late to make that intervention.



Time code	Speaker	Text
00:23:17		They were already working in a very traditional way of asking questions about technology, where it was almost too late, this time around, to do anything or to do much.
00:23:29		And at the time, we were saying, so maybe it's a time where you watch something which was already progressing, and make an intervention that might be useful for the next iteration of that project, because in three years, there's only so much you can do.  So, you're saying, in a way, what you were witnessing then.
	TL	Yes.
	DM	Okay, so now we've talked about the discipline outside. There was also some disciplinary mix inside, at Carleton.
00:24:00		And you've just mentioned an example, where you met Chiara, and that helped you think about the intersection between design and data studies better.  Are there other places where that project, which put many faculties together, many departments together...? Have you got anything else to say about that, internally? Transdisciplinarity internally?
00:24:31	TL	It's been very interesting. So, since that project, I've been involved in a couple of things.  One is Open Smart Cities. Another one is a digital twin project with architecture. Recently, an I Trust AI Project with archives, and archives around the world, and artificial intelligence experts.
00:25:00		And right now, I'm in the process of co-drafting a research proposal that's coming out of engineering.  And one of the things that's underestimated in all of these projects is the cultural predispositions of disciplines, and the friction that occurs from a lack of listening and also acknowledging clear cultural disciplinary differences.
00:25:33		For example, on one project, the digital twin project, it took a year and a half for what I said at the beginning to sink into people later.  But it also took me a year and a half to realise that they didn't understand what I was saying.

Time code	Speaker	Text
00:25:57		<p>So, that's very interesting to me, that something that's so clear and cogent to me, in my world, communicated earlier on, friction throughout.</p> <p>Trying to say, yes, but that's what this is, and that's what this is. And pushback. People saying, yes, you can't do this, and you can't do that. To eventually, it coming back to exactly what was said at the very beginning.</p> <p>But because some experiential learning had to happen before it could be understood, that aha moment occurred.</p>
00:26:29		<p>And what surprised me in myself was, was I've worked on research projects before, I've written about transdisciplinary research before, and it's so tacit for me to think that people understand each other, that I completely missed it myself, that people don't.</p> <p>And that sometimes I even took it personally. What's wrong? Why are you mad at me? Don't be mad at me for bringing up these issues, etc. Anecdotally, why do I bring that up?</p>
00:26:59		<p>Because transdisciplinary research, it's one thing to say different disciplines are involved.</p> <p>It's a whole other thing to actually understand each other, work with each other, integrate each other's work, and mutually benefit and create a new outcome as a result of that collaboration, in a very clear way, where everybody understands it.</p>
00:27:26		<p>The other thing that's interesting, and it's something that through these other interactions, that I learn about myself a lot, if I can be so bold and to bring my personal observations of myself, or my own subjectivity, is I realised that in the past few years as a young scholar, my strength is really...</p> <p>Young not in age, but young as in my level in the academy, is that my strengths lie in the setting of infrastructure, or the cross-topic things at the bottom of things, not necessarily at the research outputs at the top.</p>
00:28:09		<p>So, in other words, what I... Hey. Some people are visiting me. Just one sec.</p>
	TL	<p>Okay, sorry. Bye bye, Reuben. I'm probably the noisiest person in the library right now. The phone's rung, the interview, people visiting. Anyway, sorry about that.</p>

Time code	Speaker	Text
00:28:59	DM	You were saying you have to explain that at the bottom level, not at the top level.
	TL	<p>So, at an infrastructural integration level. Because, for me, I see information, data and technology, if we think of it as a boundary object, I think you know, you're well aware in Star, a boundary object is something that brings people together.</p> <p>It could be a map. It could be a dataset. It could be all kinds of things. But that brings people together. That's where I tend to live.</p>
00:29:26		<p>My strengths tend to be in the interconnections of things, not necessarily a particular research focus or theme. And it's a role and a space that is comfortable and uncomfortable.</p> <p>Comfortable in the sense that I love seeing how all the things can come together.</p> <p>Uncomfortable in the sense that it leads to outcomes, but not always publishable outcomes, or tangible outcomes on a higher level to say, this was Tracey's contribution. Because it's so under the surface of things.</p>
00:30:05		<p>And I'm beginning to see that all over the place, and that is something that I have to figure out myself, what that means and how I deal with that.</p> <p>And I think, from a transdisciplinary perspective, you probably have seen other people on the project who are like that as well. Who's the glue? Who's bringing people together?</p>
	DM	Yes.
	TL	Somebody called me the other day an academic Tinder, so the matchmaker between different groups and different ways of thinking.
00:30:33		So, to me, transdisciplinarity has that essence. There's something that happens. There's some, lack of a better term, magic that happens in the transdisciplinary interaction, but it's not always tacit or tangible. And it's not always measurable.
	DM	Okay, great. Okay, very nice. I've got to be disciplined now, because we only have another half hour.
	TL	Sorry, yes, and I'll keep you more on the lead.

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00:30:58	DM	<p>No, I don't want to. I have loads to say. I'm going to shut up. Can you talk about, just if you can, talk about design?</p> <p>This was, if I understand well, for you, because of what you said about Chiara, maybe your most important encounter with the design people? And it is a design project.</p>
00:31:28		<p>So, Gendered Design In STEAM, it really comes from IDRC's hope that the way of working of designers might bring something to the questions of gender in STEAM.</p> <p>And so, can you comment on you, gender, the programme?</p>
	TL	<p>Yes. So, what I found interesting, and I don't know if it happened for other interactions, you'll know more than I do, is, and it's so obvious that it's embarrassing almost, that of course design has design frameworks that operate as ways to guiding the process of design.</p>
00:32:11		<p>But that was never made clear to me at the beginning. So, the Double Diamond Framework is a framework that is almost applied across all designs.</p> <p>Human-computer interaction in design is another one, where users are part of it.</p>
00:32:29		<p>Or critical reflection of technology, the philosophy of technology or the philosophy of making something, suggesting that technologies are not neutral artefacts. That they're social constructions or social-shaping qualities related to the making of things and the framing of things.</p> <p>We never had that discussion at the very beginning, and I think, in hindsight, that would've been really useful, because for me to learn in working with Chiara and the student was right.</p>
00:33:05		<p>And it took the student even a while, and even Chiara a while, to make it obvious. It's like, wait a minute.</p> <p>Because again, it's so tacit in the design process to apply a framework, that to say that there is a framework is not common. Because it's so tacit. It's so part of the experience of a designer. So, once I figured out there was a framework, then I said, okay, great, you've got a framework.</p>
00:33:30		<p>Within that framework, how would you gender it? Where does gender come into that way that you think about design?</p>

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		<p>When does gender influence that framework, and does it? Is the framework neutral? Where does this framework come from? And how come everybody's using it?</p> <p>And what was very interesting is in the literature review that the Master's student did, there was no critical reflection on the Double Diamond Design Framework, because it's just something people do in design.</p>
00:34:03		<p>You just apply it and you do it. And so, that was interesting for them.</p> <p>Because for me, it was like, okay, what's the genealogy? Or, for you as a historian, where does this come from, and why is it so powerful, and why is it so influential? And how come nobody critiques it? How come there's no critique of this thing.</p> <p>And so, it was fascinating to see that designers don't critique that stuff, based on what I saw.</p>
00:34:29		<p>So, to me, personally, it was a very interesting discovery, because my first question was a bit like the questions I just brought up. Who brought this up, whose framework is it, and how does it change, and how does it fit in?</p> <p>And so, it's very exciting. I can't wait to see how the student's thesis ends. It's going to be ending soon. But that was a big discovery for them as well, and it was also a discovery for Chiara.</p> <p>And then, how do you take an intersectionality approach to understanding design or Design Justice, for example?</p>
00:35:04		<p>Because even the concept of Design Justice exists. There's a whole book called Design Justice. It's very interesting.</p> <p>But we hadn't encountered that early on. And hindsight's always the best, when you can look back and you can say, hey, what did we not do?</p> <p>In hindsight, that framing would've been really handy, or that initial, intellectually design is this space, and intellectually these are the frameworks we apply.</p>
00:35:35		<p>And in this space, while there may not be gender and technology, there are these scholars that look at gender and technology, which we see throughout the philosophy of technology, and I'm sure you've encountered in the history of technology, and we see it in data studies.</p>

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		And there are practices, such as human-computer interaction or UX, where that is part of how they think through it, because there's an engagement piece to that.
00:36:01		<p>And those are some of the things that we ought to be incorporating and sharing more broadly, as an underlying framework, for all of the project's participants.</p> <p>And I think early on, I remember those first couple of big meetings that we had in the Industrial Design Lab or Centre, or wherever it was, that those questions were asked.</p> <p>What is gender and technology? What are these frameworks?</p>
00:36:30		<p>And that never came out, overtly, as a way to bring us together, to help us understand.</p> <p>Here's design. This is how design works and is thought of. Here are the actors that tangentially deal with gender, and here are the spaces like Design Justice and others, where those conversations might come in.</p> <p>Or even appropriate. You would've remembered back in the old days, in 80s and the 90s, appropriate technology, that technology of appropriate technology, right?</p>
00:37:00		How we were doing overseas development and sending water pumps to Africa, and women couldn't operate the water pumps because they were too heavy.
	DM	I do, yes.
	TL	That thinking is part of design and of development studies that we never really had a conversation about, and it could've been so handy.
	DM	No, that's interesting. So, I'm going to let you speak, because I could answer this, but I'd rather... That's very interesting. Lots to say about this.
00:37:28		<p>But then I'm going to ask you all this, and you've already said some bits about this, and think North-South, in that programme again.</p> <p>As you entered this, I suppose that's what might have pushed you to say yes a bit, because you've got 20 projects coming from the south. And how you saw it, your own interaction, and also you saw the programme and just North-South collaborations in that programme.</p>

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00:38:00	TL	<p>This is really interesting.</p> <p>So, one of the things I did discover that was really important, and I don't know if the intervention changed anything early on, you'll recall it when I bring it back, was that people in the south don't have the same libraries we have, which means they don't have the same access to journals in the way that we have.</p> <p>They don't have the same access to knowledge institutions in the same way.</p> <p>I think we... I don't, because I was on the Library Standing Committee for a long time at Carleton, and I really care about libraries and archives and those kinds of institutions.</p>
00:38:35		<p>Carleton University has a really amazing library, with really amazing access to resources. There're very few things that our library doesn't have or cannot get access to.</p> <p>But when you start working with people in the south, they don't have access to those materials, and I think that that's a huge shame.</p> <p>So, the whole issue of open access, open archives, access to libraries, open data, those kinds of things, really have to come, really have to show up in the south.</p>
00:39:04		<p>We can't pay lip service to that. And so, as you know, what I was saying is this.</p> <p>Listen, I'll give you access to my library account, and you search whatever you want, and I'll send you those papers. That's one. So, access to resources is one.</p> <p>Two, and this is something that I think of a lot, and I think of it a lot from my world, where I really prefer giving knowledge legs, so making a difference with knowledge.</p>
00:39:33		<p>In other words, taking it out of the academy and making it run in the world. Sometimes we're so busy living and applying and making things, that we don't have time to theoretically reflect about things.</p> <p>And so, in my small and short interactions with the two groups, it became clear to me.</p>
00:39:54		<p>That being able to sit back and think through theoretical framings, or situating what's going on in this project in a broader technology context, gender context, political context, socioeconomic context, didn't exist.</p>

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		<p>That conversation didn't happen. And so, sometimes when we're so focused on doing and making, we miss that big picture. That was something that I witnessed.</p> <p>Now, is that because it's the south? I don't know. I think other people do think and miss that as well. When I go to data science, it's the same.</p>
00:40:30		<p>They don't think more broadly about things. When I go to engineering, often the same.</p> <p>The Adrian Chans of the world are rare. We don't see many people like him in engineering. We don't often have that thinking.</p> <p>So, I don't know if it's exclusive to the south, but I certainly did witness that between the two groups, that there wasn't a lot of that critical reflection in the production of things. Now, it was a design project.</p>
00:41:00		<p>And is there generally in design critical reflection on making? And the critical reflection on making, infused with gender, as opposed to we're going to study something about women, older women, old women, and make something, I don't know that that was made overtly clear either.</p> <p>So, I can't say. Again, I don't want to generalise because the two groups are from the south.</p>
00:41:28	DM	<p>No, you don't... That's all right. What about now, instead of North-South, we talk more squarely about gender in this programme?</p> <p>So, you've already said their notion of gender in your interaction with these two projects, their notion of gender in the composition of their team, in their thinking about their project, was quite rigid and did not seem to be moving.</p>
00:41:56		<p>So, then could you talk generally about which notions of genders did you arrive with?</p> <p>Talk a bit more about that and what you saw. How would you characterise what you saw in the two projects and in the programme in general?</p>
	TL	<p>So, you and I are living in Western environments and in Western academies, with very fluid notions of gender understandings and very complicated politics around gender, transgender, etc, LGBTQ, etc.</p>



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00:42:34		<p>Neither of those conversations showed up, of LGBTQ++. It was not a discussion. Gender-based analysis plus, plus, that we see now in projects, I didn't see that come up, but I can't say that I brought it up either.</p> <p>It didn't come up, and I didn't bring it up. So, we're mutually not great on that front.</p>
00:43:00		<p>But those things didn't come up, so that's interesting to me. Is that a south thing? I don't know, but it certainly was the context of these projects.</p> <p>What else is there? The roles of women, not necessarily girls, but of women, were pretty clear in these two projects. It was traditional roles and understandings.</p>
00:43:28		<p>And I think, if we go back to intersectionality, these were elite women and men leading these projects in their respective societies.</p>
	DM	<p>They were elite men and women, you said? They were?</p>
	TL	<p>They were, yes. Yes, we're talking scholars, people with jobs. We're talking designers, engineers. We're talking an elite section of society.</p> <p>We can say that in Western society as well, but I think we can more so say that in...</p>
00:44:02		<p>I'm in Sweden right now. Almost everybody's an engineer, right? So, it's common here. Engineering is part of Swedish society. That's not part necessarily of Pakistani society, nor Malaysian society.</p> <p>And so, we're talking quite an elite group, and I didn't see sensitivity to that. So, I found that to be very interesting, too.</p>
00:44:25		<p>It's one thing to do gender, but it's another thing to not be paternalistic when discussing projects on the ground with poor women, coming from an elite group of women and men, who are leading these projects.</p> <p>So, that subjectivity I don't think was foregrounded enough. And maybe for us, as people involved in the project, we didn't consider it enough. But I don't know that for a fact, but I know that I didn't consider it until I saw it.</p>
	DM	<p>Yes, very nice.</p>

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00:45:00		<p>Okay, so I wanted to ask you about COVID, but we've already said way enough about COVID and what it did on the project and more generally for you.</p> <p>So, I think the last bit, really, that we were interested in is, how do you...? You've already spoken about how do you see the future of all this.</p>
00:45:30		<p>In our three-year plan, there is absolutely nothing that we have thought of what's going to happen after.</p> <p>Like the rest of the programme, we've been thinking on our feet all the time. We've been working at many levels.</p> <p>We've been working at the level of Carleton Transdisciplinary Adventures, the creation of networks within Carleton and from Carleton, outside. For instance, say your RA is meeting these people otherwise.</p>
00:46:00		<p>So, there's been that. Then there've been networks between the projects. There's been each project doing their stuff, and maybe wanted to do more.</p> <p>Just now, you've talked about books that say, if you could follow, you would mention these books, which says a lot of things, and it makes me think maybe we have to have some library of future stuff.</p> <p>Then I spoke.</p>
00:46:28		<p>I reminded you of how, at the time, you thought these projects are already too jammed to make a deep intervention on gender or justice or even design or technology. But that maybe in the long term, the intervention there might colour the next iteration of this.</p> <p>We've already spoken about later, so I'd like you to talk about later, and without any engagement on your part, just to dream about later.</p>
00:47:04		<p>So, knowing all this, where could this go? And I'm saying we have absolutely not committed nothing. We're just trying to dream generally, and receive possible futures and just discuss that, one way or the other.</p>
	TL	First, the future needs to rely on the past.

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00:47:29		How are the data proposals, results, reports, lists of people, meeting minutes and agendas? How's all of that? If we think of archival theory or diplomatics, how is all of that being archived?
	DM	Okay, very good. And you've not mentioned that, I was to tell you that, in your influence in the project, but you have done a lot on that bit, to give the connections or the possibilities on how to keep that stuff archived.
00:48:04		And so, this, you undersold yourself. So, yes, I'm not going to answer, but you actually impressed that on this small research group we have, where we would probably meet another time, that that was, for you, a structural, fundamental point. And not only for the future, but for the project itself.
00:48:29		But now, what you're saying is that this is also something for the future, yes?
	TL	Yes. So, the preservation of those things is really important, so that people can access it. The next one would be if, let's say, a whole bunch of money showed up again, and this was to continue.
	DM	Yes, whatever.
	TL	Then I would say that there is the onus on the PIs, wherever they may be, or the key partners, wherever they may be, to do a good literature review, first, on what gender in technology means.
00:49:02		To look at applied frameworks and theoretical frameworks, and to create a level of knowledge that can be shared. It can be critiqued and deliberated, but at least a foundational understanding of what design means, so that we can report. Because we had those deliberations early on, but I don't remember it ever amounting to the Double Diamond Framework, for example, which was like, look at that.
00:49:33		Or there's a book on Design Justice, for example. Look at that. Or these kinds of other design frameworks. I think that it's really important to have that. Then I think that another thing that would be really important would be to do a serious examination of what feminism and gender, they're different things, but feminism and gender come

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		together, and then the intersectionality of that with class has to be thought of.
00:50:02		<p>And that that ought to have some conversation with project proponents in different parts of the world. That there ought to be some kind of, you called it a library, or a Zotero.</p> <p>I always use a shared Zotero, because in that way you can deposit things in it, and people can share bibliographies of material that may be two or three things that everybody ought to read, to be on the same page and have a conversation about.</p>
00:50:31		<p>Whether it be Double Diamond, Data Justice, whatever that may be, so that the project proponents and others have an idea.</p> <p>Because we had the project proposals that brought us together, but there wasn't any, I felt, for me, again with very minimal interaction, glue.</p> <p>I had no social glue or cohesion to things, and I wonder how the people in different countries feel about that. Did someone in Pakistan get to make friends with someone in Malaysia? You would think there could be some affinity.</p>
00:51:01		<p>If you're Malay, you're Muslim. If you're in Pakistan, you're probably Muslim. So, speaking Arabic would be something common between them.</p> <p>There would be some cultural frameworks, as well as maybe some institutional frameworks that could bring them together, but I don't know if that occurred between the different projects.</p> <p>So, how could that happen? How could we create and foster more collaboration between projects, in different regions, at some point in time in their trajectory, and also encourage that reflection on all sides of the equation?</p>
00:51:36		<p>And then I think that we did have coordination in the project, but I think someone who's involved in coordination, not just administrative coordination, but actually transdisciplinary coordination.</p> <p>And doing this matchmaking stuff between, so and so, look, Dominique's doing this, and so and so is doing that, and Tracey's doing this, and these three projects over there are doing that.</p>
00:52:04		<p>How can we bring them together, synergistically, to have at least a conversation or exchange something, and then follow up on those exchanges? I think that would be really handy.</p>

Time code	Speaker	Text
		I would also like to see the outputs. Can we have the outputs from all the different projects made available to others, somehow? I think that would be really exciting to see, and I'm sure we'll see that in the final presentation of everyone.
00:52:34	DM	Yes, very good. Okay, I'm going through my list of things. Is there anything else you would like to say, that I did not ask you to stop on? I can ask you. I have one idea here.
00:52:59		You're the first person I meet in that capacity. There're seven other sector experts I'm going to meet.  So, as I do this hour with others, are there questions you think I could ask, that I didn't ask, or ways of doing that interview better, that you can think about with me? Or do you think that that was well designed enough, or is there stuff?
	TL	I think it's well designed enough. I know you, so for me it's always easy to talk with you.
00:53:30		And I can always be very frank, because we don't know each other deeply and intimately, as in best friends or anything like that, but we've known each other for some time, so there's a facility in this.  I don't know that you're going to have that same relationship with others, so that's something to keep in mind. And also, I have no problem with being very honest.  I think probably asking a little bit, maybe, about the question of, has your notion of design changed, or transdisciplinarity changed?
00:54:01		Those things, I think, might be worthwhile asking, because that was one of the outcomes of the project. And have notions of gender changed, or how did gender appear?  So, maybe finding a question that teases out a little bit more might be good.  And then maybe a question, if you think it's important, on how the project was administered might be useful.
00:54:34		In my case, again because it was always tangential to me, I didn't dive in in a deep way.
	DM	No, that's fine.
	TL	But there're others who dove in more. They might have more reflections on that.

Time code	Speaker	Text
	DM	Yes, and one of the things you didn't talk about, I know you just talked about in a guilty way, but there was an RA thing, and you worked a bit with Rizwana, I think.
00:55:01		And on the supervisory part of it, in the future, is there anything that you have to recommend? I know you've already said, but yes.
	TL	That's a great question. At the very beginning, none of us really knew what it meant to supervise students in this context. It wasn't clear that there were going to be students, because I remember there was a call to say, do you have students that you can bring into the project?
00:55:30		And I had no idea how to bring students into the project at that time. In hindsight, now I know, but I didn't know at that very beginning. And so, it was hard for me to do. Remember I did some outreach in the department, in my department?
	DM	Yes.
	TL	I couldn't find anybody.
	DM	So, a shopping list. A clear, like you said, bring an RA, and then this is what you should tell them.
	TL	Yes. So, I think the RAs had some centralised supervision from the project, which is good.
00:56:00		And so, then people like me, who are tangential, may be... And the thing that's always interesting, and I learnt this when I was an RA, was... But when I was an RA, I was older, so the power differential was different for me. Professors didn't scare me, because they were my age. But if you're 21 or 22 and you're an RA, you're not going to tell a professor what to do.
00:56:27		Whereas I could've used someone to tell me what to do, but they wouldn't tell me what to do, because they're RAs and there's a power differential. So, how to help RAs understand power and to exert whatever is that they have to do, to herd the annoying cats like myself. But also, I didn't really know what to do with the RAs. To be honest, it had to be a supervisory capacity.

Time code	Speaker	Text
		But because I was so far away from the central core of the project, and you notice I'm using distance as a metaphor, it really was intellectual distance, physical distance.
00:57:04		There was distance between the central aspects of the project and what I was doing, that I couldn't really see what I could possibly do to supervise an RA about a project that I don't know much about. So, it was hard to be a supervisor.
00:57:24	DM	<p data-bbox="549 636 1385 779">On this, to me, one of the reasons you didn't know, I'll answer that one because this is the one that I found the hardest, one of the reasons you didn't know, initially, is because we didn't know.</p> <p data-bbox="549 801 1385 911">We thought, we're taking this on. We told IDRC, we're taking this on, if we can find in it ways to do what we do, train, research. There's got to be something in it for us.</p> <p data-bbox="549 934 1385 1003">So, the faculties gave us money to train graduate students or include graduate students.</p>
00:57:58		So, at a certain level, what you don't know well is that Rizwana ended up doing all sorts of stuff that were for the core.
	TL	Fantastic.
	DM	<p data-bbox="549 1211 1385 1321">And a relationship with this project, where you did not need to be involved. And so, more happened to Rizwana than you know.</p> <p data-bbox="549 1344 1385 1489">So, it was open. At the beginning, it was uncertain. But I think we should've had a more diligent duty of informing people like you of what the RAs were doing, and where you fitted, more frequently.</p>
00:58:36		<p data-bbox="549 1525 1385 1635">So that, to tell you, it is uncertain, don't worry. It's part of the programme. And then it's become a bit more certain here, there, and everywhere.</p> <p data-bbox="549 1657 1385 1727">So, I think for the you equivalent and for the RAs, there was uncertainty.</p> <p data-bbox="549 1749 1385 1854">But we could've made it more explicit and reassure everyone, and then inform everyone where it was getting more explicit, so that the total experience would've been more interesting.</p>
00:59:04		On this one, I think it was always a hard thing to manage because there're too many bits to that programme, but that part was, I think, one of the least successful in general.

Time code	Speaker	Text
		So, what you think there, is a general problem. It's not just what happened with you.
00:59:28	TL	<p>The other thing is, I'm better in a conversation like we're having. Just myself, I have a bit of ADHD, so making me sit down to read reports is the worst thing is that I can do. I have to really struggle with myself to do that.</p> <p>But when I'm in a group, I think you know me, I'm turned on. I can pay attention. I have five conversations I can manage at the same time.</p> <p>And I can type and do those things at the same time, because it's the way that my brain works and that my personality is.</p>
01:00:03		<p>The fact that we had COVID and we couldn't meet face-to-face and socialise and get to know other people on the project, I think that that was a problem. I really do.</p> <p>And I think we can't underestimate that. And I think in the future, that has to be really clear. So, a project I'm on right now, the I Trust AI Project, led by Luciana Duranti, she's just amazing.</p>
01:00:33		<p>She's got her fifth multi-collaborative SSHRC. Nobody has ever had that many SSHRC grants. The big partnerships, she's had five of them that she's led.</p> <p>So, she's so good at this transdisciplinary aspect. One thing, she's also Italian, and the one thing that she does is there's always dinner, there's always a party, there's always wine.</p>
01:00:58		<p>And there's always, usually, face-to-face, one-week meetings, where at that meeting is when you get the work done with people in a concerted way.</p> <p>So, meeting, travelling, etc, those things are inherent. And so, through those relationships, you develop different levels of commitments and understandings of different disciplines.</p> <p>And I think that was really hard to do in this context, really hard to do. And in the future, I think that that is something that has to be inherent in it.</p>
01:01:31		<p>Now, it's hard to fly everybody everywhere. I understand that, particularly if you have projects all over the world, but there has to be a way to encourage something like that, and to factor that social cohesion, if you will, amongst the projects and the project proponents.</p>



Time code	Speaker	Text
		If I were to say something in the future, that would be a thing, because I know for myself, had I showed up at meetings and seen, my experience would've been very different.
01:01:59	DM	Okay, now we have to stop, because of me partly, but I'm going to write to you again. Okay, I'm going to stop this one.



GENDERED  
DESIGN IN  
STEAM

## Interview transcript

Interviewee:

Raquel Noronha | Regional Expert, Latin America

Interviewer:

Chiara Del Chiara | GDS Investigator

Carleton University

Date of interview:

4 May 2023

Transcribed by:

Vanan Online Services, Inc.

**Raquel Noronha – Interview transcript – translated from Portuguese the original language of the interview – 4 May 2023**

**Interviewer: Chiara Del Gaudio**

**Interviewee: Raquel Noronha**

**LENGTH: 00:46:51**

**[START]**

CHIARA: Okay. Good morning, Raquel,

RAQUEL: Good morning.

CHIARA: Okay, we are here today to conduct the interview about your participation in the GDS project, and in general I just have one main question for you, I would like you to tell me the story of your participation in this project, I am going to mute my audio, just so I don't...

RAQUEL: Thank you Chiara for this interview, for this collaboration. I will tell you from the beginning how I approached it, how the invitation came from you to participate in this selection process, with the documentation, [inaudible] everything else, and it was interesting that when you approached me you started asking about researchers in Brazil who were working with the gender issue, who I knew, everything else... and I mentioned some people to you, but I at that initial moment, when I went looking, I saw that there were really very few. And then, after that, I received your invitation to submit the curriculum, the project that I readily became interested in, I understood that it would be a very important opportunity for me: Why? Because at that moment, which started back in 2018, I had just finished a research project that started in 2016 and ended in January 2019, about gender equality; and these questions about the role of what we produce as designers, as people who act in a very active way in the construction of worlds, that our role, I had understood with this research project that I will talk a little bit about later, that we had a very important role in this process of engendering the world, and I had these questions very latent in my thoughts at that moment. And the opportunity to participate in a project like GDS, with such a reach and with the possibility of this Red Now Expert position of interacting with other groups, interested me a lot. Later, I confess that I even wanted to participate in the contest, but I couldn't anymore because I was already an Expert, I had already been integrated to the team in another function, but I was very eager, because the projects, that opportunity to access this contest, it allowed me to follow a lot of groups, it allowed deep reflections on what a design related to gender issues could be. So, this was my first approach. The first big barrier, the language issue, I think is always an issue for us who are not English speakers, it is not our first language, it is not our second language... so this difficulty is always a barrier, which is a North-South barrier, for many of us, not only in this project but in many other actions. So this already conditions us, to certain places, certain opportunities; and that in the gender designer itself, a lot of work was done so that this would not be a barrier. I think that the effort of the management, of the project managers to facilitate this access was recognizable. And so we started working, the groups from Latin America, very heterogeneous groups in what they

think, what they do, how they relate to this approach, design and gender... some groups very advanced in their thinking, already a political-epistemological problematization of the relation; others still seeing this research opportunity as a way to think gender design, of how this can be, then, in a much more experimental, speculative way in the approximation between these two, these two ways of thinking. Others who were not very aware of this relationship, and who took advantage of the edital, took advantage in a positive way, not in a pejorative way of talking about taking advantage, but took advantage in a positive way to reflect, to start thinking about the subject, and added this thought, this way of seeing the design process; Starting from gender issues, what they had already been doing as a design practice, which were practices that were not engaged, and here I specifically frame the design projects for women, to solve women's problems, and they did start thinking about gender issues. One issue that became very clear, right at the beginning, is that all the projects were talking about gender as women, so it was very little, and even in the projects that from the other continents, this was also evident. I don't remember the color of the others, but I know that in Latin America there was none related to other identity groups within gender issues, and this is an important fact, that gender has still been seen and accessed as a relation to problematize the role of women in society. So, this absence of other gender related groups, it is very significant, it is a much bigger gender gap than we suppose. No [inaudible] so, I think that this is a future perspective for the next editals, for the next researches of bringing the specificity, of fragmenting this notion of gender for other groups. This is very clear in the public tenders, in the edicts. I think that's also a question that caught my attention quite a bit. I think it is impossible not to talk about the pandemic. I had an expectation at the beginning of the project of seeing the practices in situ, of being with the groups, of understanding the processes, of being able to collaborate in the reflection in person, because I believe that by seeing, being in the field, it is possible to verify other things that are not possible in virtual meetings. And I think this had an impact on everyone, I think everyone had this... this longing for the meetings, and this lack of presence, I also see this as an issue to be noticed and taken into account in any process of analysis of this program. Why? because a debate was necessary, a theoretical and epistemological deepening, a discussion, an experience with the researchers, so that the debate could really deepen. Everyone ended up being very much on top of what they were already doing. There was integration, and I will talk a little bit about this, about the follow-up seminar, which I think was a specificity of our Latin American group, and I will talk a little bit about these impacts, the difficulties, and the achievements of this process; but I think that everyone ended up staying very much within themselves, without an exchange, in fact. and I think that in a program that proposes to map, to promote and map gender design processes, there is a lack of epistemological consolidation of what was found, what was before, what was after... I believe that these interviews that you proposed to carry out are very important in this sense, because they may bring this temporality between a before and an after, between a perception of what was, what was planned, what came to be, with all the difficulties, with the impediments caused by the pandemic, and everything else. I think that the lab moments, talking about these macro meetings that had everybody together, or more specific moments like our [inaudible] that was a specific moment with some people. They have... well, they are a double-edged sword: on one hand they are an opportunity for us to understand the whole, on the other hand they cause a certain anxiety, because if we ended up giving the necessary time for speech, for debate, we would spend five days glued to the screen... it would be impossible for everybody to stop and

do that. So, I think that as much as they were necessary, they also generated a restlessness, because it seemed that everything was supposed to be very superficial, and the things that were happening were in no way superficial, in the thought process of the women that I accompanied. There were changes in the way the projects would be conducted, there were changes the way of thinking faith, of problems that they all went through, health problems, domestic [inaudible] problems caused by the pandemic, and the impact on women is very high. The possibility and impossibility of being there. I think that all these are conditions that we experience in our practice as researchers, and that hardly ever come up in an academic process. And I think that it needs to come out more and more, because we have experienced professional situations in which the male availability is always very high, and the female unavailability is huge. The other day I was the person... so... of the women I was the most senior in the meeting; and the men said "no, because we have to meet the students' demand, that the students want the events in the evening" and my younger colleagues were very embarrassed, and I noticed their embarrassment and I said "people", I raised my little hand and said "people, at night I can't, at night it's my gym schedule, at night it's the time I stay with my daughter, it's the time I talk to my husband, it's the time I have my religious appointment; so at night I can't, my working hours are from 8 to 6. And there was euphoria and uneasiness at the same time. The women all agreeing "that's right, Raquel, that's it... we also have that", but I was the one authorized to say that, and maybe theirs wouldn't like it. We are on probation, because we are still searching for a place of positioning that at that moment, in that group I had already reached, and this is very disturbing for us as women; so, this kind of common situation that is not only a design issue but is a social issue of our experience in the world, the way we live, this implies the way we can design, and how we create the world. So, that's design... that is indeed design. The way we organize our time, the way we plan our actions, our research, this is all part of a project of world division, of organization, of research itself. So, with these small attitudes, with these small impositions of what I can and what I cannot, we are creating gender oriented design. So I saw this happening with these women with whom I was accompanying, with whom I was researching because I ended up being very interested in some of their research, and I participated in their research events. They ended up inviting me, I gave a lecture, I participated in a round table, I took part in an event organized by them; so it was an exchange that I could contribute as a Regional Expert, but also as a researcher, which I think is my role, there. I didn't think I was the most expert in them by any means, I was learning so much from them, and my role I felt was to foment, systematize, gather, stimulate, the interchange. It was always this role that I had, that I assumed, that amazed me. So, the pandemic, I can say that it was the greatest learning about this gender positioning towards work, towards research. Well, let me see... I will then talk about the follow-up meetings. Knowing that I was, that we were not going to meet in person, although I still had the expectation that it would happen next year, but next year, next year... and things were moving in another way, I decided to hold a seminar of these Latin American groups in which we could speak our languages, that was a prerogative of everyone in the group, that we could understand each other in Portuguese, in Spanish, in portunhol, in any language. ... there was no reporting, there wasn't much regulation, we sometimes had a small agenda to deal with operational issues related to the public notice, the issue of receiving appeals, all this ended up generating concern and we dealt with these issues. And then we started to exchange, I think that this moment of exchange was very important. We exchanged references, exchanged experiences, invited people from our own groups to debate a certain

theme, we held round tables, lectures, all this within a program that lasted approximately seven meetings. And in these seven meetings that were practically monthly, which took place from 2020 to 2021, they were fundamental to maintain cohesion, to feel the pulse of the people. I think that this was the main gain of these moments, was to encourage people not to stop, in the face of all the difficulties. We had a researcher that went through a very serious back surgery, others that got depressed, lost two or three family members due to the covid... we are talking about low medium income... we are talking about low medium income countries that are, that were more affected by the pandemic than others. So this happened close to everybody, so keeping the pulse, keeping the vibration of the research was the great gain of this series of participations. There were people from all over Brazil, [inaudible] they were people not from the design area, but who worked on gender issues in some way, people from sociology have to talk about philosophy? I compare, for example, when we had, as an example, the meetings with the expert sectors; and they were very quick meetings that I think were not so productive, because there was not an opening process of understanding the other's reality. So, the examples, the contacts, were very superficial things; so, what I think of this difference was exactly the continuity of the accompanying process and the joy, the vibration, the welcoming, with the achievements. We also made small presentations about what was going on.... "what have you done since the last meeting", "ah, we did a workshop with the children", "ah, we did a mapping, look at the images", then she would share in a very informal way what was being done, and everybody... This helped, because it helped the other side, "Wow, it's happening there", wow... what would have been a problem, for example in Argentina, where they were going to work at Uba campuses, which would have been a problem, became a solution, because the field was empty, I think they gave free access to the men's restrooms to be able to photograph the men's restrooms. If the campus had been up and running, this wouldn't have been possible, so easily, so this all served to maintain this cohesion, and I think that the important role of us designers that are dealing with contemporary issues is to maintain responsibility, and I think that this is what we were doing there in those meetings, developing an ability to respond to the other, and the responsibility with the work of the other. Our role there as mediators, as promoters of this research, so that is how I saw my role of being a support and strengthening point. I think that this is an action of gender empowerment, given all the difficulties that we were going through there. In the same way that I gave the example of my co-workers, there was a point of support to change something, to interfere in an oppressive logic that places women in certain positions, and that my position favored me to act in a decisive way. So, I think that this is how I acted, in a very broad way in the debate in this event that we called the follow-up seminar. I read a report, not in depth, but I read the project report that Carrie sent. I saw that there are many, many issues there to be debated, to be unraveled, to be unfolded; but I still think that there, I know that maybe it was not the objective of the project, of the program, but I think that there was a lack of epistemological systematization, which some groups did, some groups published articles discussing the results of their projects. I think that this should have been a function of the GDS management that did not happen. We debated, I even proposed the idea of a book so that we could consolidate, but I understood that the issue was more of mapping, of showing what was happening, of fomenting and showing what was happening. In this sense, I consider that it was very successful, because we have a cartography, we have a network today of several countries, among 21 projects, of understanding that we have in these places of the world a support point for us to follow up on any kind of action that we might want to

undertake in the future. The places among themselves, the countries among themselves, the continents, individual researchers that have this desire, the will for exchange. So I think it was very successful in this sense. At the end, reading this production came out from the Science Team, I see that there was a process of politicization of the discourse in some of these works. I believe that the project, the two Argentinian projects, the Mexican project, the Bogota project, the Pernambuco project, the Alagoas project... are projects that managed, beyond the final product, to bring an epistemological reflection that contributes to this field. I am not saying a field, but this anti disciplinarity between gender design. It is also a concept that I have worked on, because the positivist occidental patriarchal capitalist world has divided knowledge into disciplines... and then you speak of interdisciplinarity with this relationship, in which one drinks from the other and reaches advances in a certain field. But before disciplinarity, it speaks of this disciplinary rupture, this rupture of fields, and of a deeper interlacing between them, without necessarily saying "this is design, this is engineering, this is architecture, this is anthropology", and I could see this interlacing in some of these projects, and I think that this is a very important epistemological gain, that we think gender issues are not discussed in a disciplinary way. They are anti disciplinary. I think that this is an important key of analysis to be developed, and I saw this happening in many cases. I think that another issue is non-prescriptivity, habits are the process in which everyday acts, everyday life, events like the pandemic was the event of this process, the life of each one, the losses, the gains, the changes of position. But the life that flows along a research project, and how it is fundamental that this research absorbs this process, and this is another point that I think is fundamental: the adherence of life to research. We can't talk about gender issues without talking about them because we are crossed by these daily issues all day long, in our professional life, in our research practice, when we sit at a table full of men to discuss certain contents, for example, a center meeting that I feel... I was sitting because I am no longer coordinator, there were 27 men and 3 women... 30 people. Sometimes one woman was missing, sometimes two women were missing... there was only 1 woman at the table. It is very complicated to assert your point of view, your will in these environments. So research, I say contemporary research, because ten years ago we thought little about it, and today it is the order of the day. Contemporary research in design needs characteristics like permeability, non-prescriptiveness, openness so that objectives and processes can be adapted, not randomly, but justified by contingencies. We are all the time in the process of self [inaudible] I see, of opening and closing. Sometimes we need to open to enter into new encounters, to enter into new reflections, new people, new events, and sometimes we need to close for the process to happen. And in this process of opening and closing, we are balancing within a thousand oppressions that we will experience throughout our lives, throughout our careers. And it was from there, already going to another topic that I want to deal with later on, is the need to prepare women to act in these areas, which are strategic for society, which are strategies for the economy, and which are strategies to overcome the gender gap; because that is where the money is, changing in many minutes... It is the access that these women will have, these girls will have, to cutting edge technology, to decision making spaces at these male tables, and it is there that they will have the ability to generate income for their families and to give other women in their families the opportunity to access these positions, the younger ones, their daughters, that they will access these positions 10, 15, 20 years from now. So this type of preparation is very important, of encouragement for women to occupy technological areas, but therein lies a great paradigm: we were always directed to the care

professions, to education, social assistance, health... and when we are at the other end of the technology, of innovation... who takes care of these women? who takes care of these families? and it is precisely this dimension that is urgently needed to adapt to the rhythm of research, and to include care as a research process, because when we leave this place of caregiver and assume other places, we are left without care; and then we do what? we put other women in charge of our families, our children, our domestic work. So, these are very serious and important issues that we need to bring to the research agenda. They are not outside research... life is research, they are linked because I have seen in this process that research was deeply impacted by life, and besides seeing this I also feel it as a researcher, in my daily life. So this is a point. Talking about perspectives for the future, of what happens from now on... what this project projected for me was exactly a theoretical epistemological deepening, a network, I think we managed to gather in some people participating in this project the creation of a Latin American network of gender design fostered by Griselda Flesler. I invited her, Griselda, to participate with me in the discipline with Maria Cecília Loschiavo at USP, because Maria Cecília had invited me to give a class with her, and during the class we talked, we saw that there was a lot of synesthesia, and then she invited me to participate... me, her, Ana Júlia Melo, who was a doctoral student at the time, and who is now a doctoral student at USP too, she continues with us. This team also managed the course, and we were talking about this very construction of the network. I said Maria Cecília, I am going to invite someone who already teaches a discipline at the University, that is, Griselda, and Griselda did not finish her doctorate. So she already has a chair in gender design there for many years, and I invited Griselda, and she was very happy to participate in building networks. Throughout this conversation, within the discipline, in our planning meetings, we were dazzled by the possibility of creating this Latin American network... because Griselda is already part of the international network of gender design, based in Germany, and... but the question is, the agendas that are raised there are not very helpful to us. So we need a more localized recognition that meets our needs, not trying to figure out in any way what is a gender oriented design in Latin America, because this is not the objective; rather, it is to strengthen ourselves as a group of researchers who have specific needs and looks for their research, which are different, because the reality of each country in this cake that they call Latin America is very different from the reality of each one of them. So our idea is not to create a standard, but to strengthen ourselves as a group that has similar agendas. And then last year we created this group, we wrote a small manifesto, we haven't had the opportunity to publish it yet, because we are organizing ourselves to meet, to talk more about what this network is, because to say that there is a network but that nothing has been done together is also... too early to be launched in this way. So we have been trying this discipline of gender design, a project, people from Mexico are organizing themselves to organize a book, for everyone to collaborate on this book, I am going to Buenos Aires at the end of May to sit down with Griselda and plan more actions in this sense. We are going to re-edit the discipline and we invited one of the participants of the GDS project, another one besides Griselda, Eva Rolim, who participated in Diana Elaine's project, from Alagoas, she was responsible because Diana is an architect and Eva was responsible for the project's design approach and I invited Eva to present it there in the gender discipline. So we were also very happy with her participation, and there was that empathy in the way of seeing, and then we also invited Eva to participate with us in the next edition. So, things are being well organized in this sense... I wrote... we organized that attempt to access the new IADC call for proposals that was not



approved... it went to the second phase, but it was not approved, and I managed to approve here at UFMA a project as if it were a pilot of that wider project, which is happening now, it was tied to my productivity scholarship from 2021 to 2022, I renewed it from 2022 to 2023. And what we have been doing is working with high school girls, from the University College, through participatory design, co-creating provocation tools for these girls. So, initially we did a systematic literature review about this access of girls to technological areas in Brazil, and now, next week, we will launch the exhibition based on the speech of these girls about what was important to them, what was important when they arrived, what was important when they chose the area, what was important to stay, opportunities, challenges, setbacks throughout their stay. They were girls from engineering, computer science, chemistry, physics... I mentioned engineering, chemistry, physics, and computer science, which we interviewed there last time. So, based on this hyper localized reality, I believe that our practices are on the micropolitical level, we rarely have the state acting very close to us... This doesn't allow us access to a broader macro-political action; So, in the micropolitical level, this happens mainly if there are people engaged with these causes, in the places, and this is the case of the University College, we have an interlocution very open to this kind of initiative, and we built an exposition, and this exposition is a provocation, it is in itself a "provocation" for these high school girls to face questions, and then we will go to a second phase with the high school girls that are willing, that feel instigated by this exhibition to participate in a co-creation phase, of how to communicate this to other girls that are not aware of it, but we will work with the girls, us, the design team, with the [inaudible] high school girls. First, second, and third year; but first, second they have more availability, third are more already geared towards Enem. So, a macro vision... I think that this is what we... these were the gains, I think that our partnerships also, Chiara, enter in this process of divisions of the future, from what we are planning to accomplish, of the academic production from the understanding of gender design, power, transgression... everything else that we have been discussing. I think I talked a lot, I talked for almost 40 minutes without stopping...

CHIARA: No... you already had some points to cover, in case you didn't talk about them, but you already covered them all. So I don't have, I think you've really covered all of them... I'm trying to figure out if there's something missing, but I don't think so, no. Maybe the only one is... what do you think was the relevance of all this to the local communities? that's maybe the only point that I see all... that we can explore a little bit more, [inaudible] a thought to share, of course, and I think then we're... we're good with that.

RAQUEL: Right. I think that this was a point that maybe we didn't have time to deepen, an evaluation. I think that even the groups didn't do this, because at the end, it was a rush, we were very impacted by the time, by all these contingencies that I have already mentioned, but... this is a very important point. The other day I was talking to a person, who is not... does not study gender issues, it was a much harder area in the field of Design, a woman researcher... in the top Brazilian echelon, and she said to me "Raquel, but I would like to understand how these communities with whom you work get all of this", and then I said "Hey guys, our processes do not have a type of validation, because it is not the intention to validate, but we need to evaluate the reception, which is not the same thing as validation". So, I think this is a question that we need to think about for processes that involve communities, that involve participatory design, that involve co-creation, it is exactly... and she asked me this... "in your articles, where is there this?", and I was like "dear God... now

what? where exactly is this?" I know of very clear impacts that happen in communities, that happen in groups, in decision making, in how things are triggered after a design process; but I have never written about this. This is an important question to be systematized, but this provocation from this colleague instigated me to do so. So, I confess that I don't know the impact of these communities, even because many things that were supposed to be face-to-face with the communities were adapted... became remote. I think that one project we can mention that had a repercussion because it was a very design practice-oriented one, that of Maria Elizete from Unifesp, which is the prosthesis for women, prosthesis related to breast cancer, to upper and lower limbs, which were suitable both to a female anthropometric question and an aesthetic one, too. They are not realistic prostheses, they are prostheses with a technological appearance, therefore they don't try to mimic the human body, but they leave a hard sample structure, in that technological way that replaces the missing limb, but there we have very strong testimonials, of how a design intervention directed to needs, it causes an improvement in the quality of life. So, maybe, as it is a project with a very strong material tangibility, maybe the one that has the most of all of them, because it is not investigating process, it is investigating product; maybe there we had this gain. This project in Alagoas, which even... [inaudible], the map, the cloth... this cartography, there we also have a statement about the autonomy of these women in the process. So they were able to register this, not only in written form, they also published a lot of things about it, about the process in general, not about this Impact, but they have many videos, many speeches of these women; so we also see the engagement and participation. In the others, I think that this result with the community was more distant, because of the distance caused by the pandemic, I am sure. Not in Argentina, but in Bogota, Colombia, there was also a great interaction with the women. The kitchen was already working today. They use the space, this political space of presence, of action, of exchange, I also think that there we had an important gain. But we still need to systematize, I think we still need to... and afterwards, and after all of this, maybe it will be a good collective publication.

CHIARA: Thank you, now I will stop registering, remembering...? I don't know how to say it...

RAQUEL: Recording

CHIARA: Recording, ok

**[END]**



GENDERED  
DESIGN IN  
STEAM

## Interview transcript

Interviewee:

Yoko Akama | Regional Expert, Asia

Interviewer:

Dominique Marshall | GDS Principal Investigator

Carleton University

Date of interview:

26 April 2023

Transcribed by:

Way With Words

# Yoko Akama\_InterviewTranscript\_ 26 April 2023

## Speaker Key:

DM Dominique Marshall

YA Yoko Akama

00:00:00

DM Okay, so, it's 26<sup>th</sup> April, and I'm interviewing Yoko Akama, who was the regional expert for the project Gender Design in STEAM. And first, it's really an open conversation, Yoko. The first thing we asked the others, and we would like to know, is if you tell us the story, however far, however wide, however long you want, of how you became part of this, and what it's meant for your own work. Yes, just the story of you and the Gender Design Project.

YA Okay. Me participating in it came from an invitation from Clara. And because I've known her from her work in participatory design, we both belong to that community. And also, because of my work that focuses on communities doing social innovation in Asia-Pacific. Gender has always been a really important consciousness, as are, I guess, other kinds of structural barriers that folks face in this particular region.

00:01:35

So, I've been, yes, involved in various stages of the programme. Obviously, it was unfortunate, in a sense it was impacted by COVID. From what I imagined I might be able to do, I feel like there were a lot of things that I missed out on. Yes, the difficulty of aligning time zones for a very, very large project. But all those, though, are inevitable for the scale of what this programme aimed to do.

What I saw and what I was able to do with two particular teams, one led by Maryam [?] in Turkey, and another one led by... Well, they changed teams, but yes, Chuin [?] was from Malaysia. I really enjoyed working with them. I learnt a lot, actually, from their work, so I really appreciated that as an opportunity.

Yes, I think there were things that... I feel like there's probably more that I missed out on than what I gained, by my inability to participate more. Yes, so it's like there's a half of me who is really thankful of the opportunity, but there's also half of me who had anticipated quite a lot, and I wasn't able to. But again, that being no one's fault.

DM Thanks for that. If you go a bit deeper, if you go by steps, when you say I liked working with these two, and what I gained, are you able to say first, I did that, second, this happened, third, this happened? The story of how these things happened, or developed, or evolved, in the cases of the stuff you actually did?

YA With both teams, we were able to schedule, not regular, but relatively frequent catching up. What I really enjoyed, with most research, really, is how committed they were to the particular issues that they were proposing to investigate. And then, us understanding that what they were trying to do was slightly outside of

their comfort zone.

00:04:34

So, they were either methodological or theoretical, or otherwise. In so doing, that's what research is quite so compelling is that the whole premise is to embark and step into the unknowns, which they did, which is always really great to witness. Not that I had any expertise, at all, in the specific cultural contexts.

We talked a lot about methodological approaches and theoretical framings. I was delighted to see how receptive they were to my input and saw their transformation. And not, obviously, just through my input, there was input that they were receiving from the rest of the GDS team, as well, but in a way that it was stronger every time. That, in itself, is always a delight to see, and the purpose of my role to, basically, help them do what they want to do.

In their own different ways, I think each of the teams were able to, maybe not achieve what they intended to because I think the issues that they both addressed nested in a large structural issue. But I think what they did try to do really well, was to consider what a design-led response, what a creative response could look like in speaking to those issues.

Trial those out through actual participatory workshops, in Maryam's case. And in Chuin's example, really try to do interdisciplinary ways of looking at particular ways in which senior women were using mobile technologies. And some of the insights are really interesting.

00:07:03

So, again, the fascination for me was the fact that, these are contexts I know very little about, what I learnt, yes, I'm incredibly grateful for that. And it felt like we were on a mutual quest, really, towards recognising what women already contribute in various ways, and to centre those experiences in a way that the research then supports. So, yes, I'm super-proud of what they achieved. Yes, really enjoyed it.

DM

I was muted. I was saying I'll come back to some of this if I have the time, but I'll go through this. Because what we thought, with the team, is to go through some themes that can go a little more in some of them.

You've touched on that, but one of the things you do a lot in your research, and you've just mentioned, there, I didn't know that context, I learned a lot about what was happening in Turkey, Malaysia. This is actually where you did a lot of mutual discovery.

So, your own research is very grounded in places, it's really important too, and so, could you talk about this project in your more general reflection about place, where does it stand? Maybe a bit more over and above what you've just said about I knew nothing from these places and now I know a bit more about community and place, and maybe, also, gender and design in all that. But what did that work do, or what did you see?

00:09:26

YA

Well, it's obvious to say a gendered experience is shaped by the places these women are in, which includes the social-cultural contexts. And I would also have been researching, myself, that then design is also the same. So, if gendered experiences are shaped by the particularities of the context they're in, so is design.

Initially, that's, again, one of the reasons why I participated in this programme. And from my disciplinary perspective, and partly because of the way the discipline of design has established, it tends to favour neutral and universalist approaches.

So, why I really enjoyed this work, particularly learning from Maryam and Chuin's team, was I think they were similarly in the same journey. And it necessarily means that one flips the assumptions around design, from really looking at what women are doing. The really super-granular details of, in Maryam's case, notions of safety in workplaces. And what is it that design is doing or could enable is very much shaped by that particularity.

So, it's nuanced, it's very sensitive, and it refuses to be seen as a bit of a technological solutionism, which I kind of sensed that was a little bit present in either of their work before, which I saw it totally erode by the end of their research outcome. That's a really big transition.

00:12:01

And again, in terms of the design community I belong to, it's also quite rare to see that. It's just design tends to have a very strong hold in delivering quite universalist solutions, and that, in itself, is a very attractive picture. But that, to me, is placeless, it's cultureless. Or, in fact, by being placeless and cultureless, it has a very Western sort of flavour to it.

Obviously, in these regions, as it was for every other place, one has to be very wary of that because of the past colonialism, and that's what's very much alive in my work.

So, I think I also was really interested in how different and divergent the stories I was hearing. Again, that being specific to the particular women that they interviewed, or they worked with, so women's experiences being, obviously... Gender can be a bit of catch-all category, but within that is thousands and thousands of differences, and that I think, is an important sensitivity that they brought to the forefront in their research.

It was already there, but I think what they did was wrapped the research around it, as opposed to, yes, some of the assumptions that we're making. But yes, particularly with Chuin's team that tended to think about senior women in particular ways. I think what was coming out of their data was how smart and...

That might have been the women who they were working with weren't traditionally technologically adept, but I think there were a lot of other things that they were doing that was surrounding that use of mobile technology that were really interesting to think about. In so doing, helping designers, then, also, think about what it means to be designing with each demographic category.

00:14:47

I think those are some examples that come to mind when we talk about specificities of place and culture.

DM That's very nice. Yes, again, I'd like to talk about this later with you, but I like what you're saying. When we were thinking about the final report, there's many things that went in directions like this, but I'll come back at the end if we have some time. That's great. I really liked that.

So, okay, now we've talked about community and context, the other themes that I would like you to talk about is that it was, from the get-go, and very wilfully, in a way, an interdisciplinary, transdisciplinary project. So, it was can design bring to STEM, but also, what can the arts bring to STEM, so that the teams had to be interdisciplinary themselves. Bjarki and I were not on the same discipline, and we were really trying to do a lot of this.

So, I wouldn't mind you talking about disciplines. What you saw, there, happening between different disciplinary traditions, how did you see that play out, what does it mean for you? Your understanding of the meeting disciplines and the way that happens, if you have comments on this?

YA Discipline is such a double-edged sword, in a way. In a way, what it does, it allows a particular mindset, languages, particular assets that one gains, through having studied or committed to a community of expertise.

00:16:48

But it also comes with the same baggage. At least, for my collaboration, which is often transdisciplinary, we have often agreed to be less disciplinary, if that makes sense, and go more with alignment of ethics and principles, and mutual learnings and aims that we wanted to invest into in collaborating.

For me, that comes down to other things, like relationship and trust, which are actually nothing to do with disciplines. Disciplines sometimes help one trust somebody's expertise, maybe, but I think, in terms of a long-term collaboration, it's almost like a secondary concern.

I also tend to want to bring in the assets that a person has on other fronts. So, it might not be characterised by discipline, but they might be a really good listener, or they might be really open to taking risks, but trusting the process. These are things that are not disciplinary-specific, but they are of a particular disposition of people. I'm attracted to people who are open to listening, are open to taking risks, are open to charting unknowns together.

So, I didn't get the chance to see... Other than speaking to you, Dominique, I didn't really speak with... I spoke with Clara and Raquel, and a bit with Emmanuel, but not many people. I would assume that, perhaps, those things were happening within the GDS Team.

I think, in terms of the questions you ask about the disciplinary elements, maybe I sensed them, but it was hard for me to pinpoint, at the moment, any specific examples I could give, where I felt it was strongly pronounced, to me. But it felt like it was a good team. From the email correspondences, it looked like the team was working really well in, again, quite challenging circumstances.

00:19:51

But no, if I were to base what would have happened with the team, based on this discussion, Dominique, I find you a really, really good listener, and that's something that I've learnt from and been impressed by. It gives me a lot of confidence because this Dominique would then go to the rest of the team to, then, do and talk. Certain things like that, I think, gives me very remote glimpses into how the team would have been working, I guess.

DM No, that's interesting because you flipped the question. Thank you. Thank you for the compliment, I take that seriously. Because you're saying, in a way... Because my question was what did you see happening. And so, maybe after that, I'll ask you what did you see happening in the two projects, as far as disciplines, and that would be nice to hear, too.

But what you're saying is that I don't really care about what happened between the anthropologist and the designers, and the engineers, and the historian, I care more about what happened along the lines that I find interesting, like trust, and risk, and ethics. On that, you seem to be saying you didn't learn very much watching it, but you watched stuff that, generally, you value and seem to see them happening.

00:21:22

And that it was between a designer and an anthropologist, and a historian, it doesn't really strike you. It could have been a geographer and an art historian, and for you, that would have, maybe, looked the same, is that what you're saying?

YA Yes, I think so. I think there's things that I actually really care about. I think, maybe, even... This is my sister's dog. She's very needy.

DM If you want to stop for a bit, you can.

YA No, no, no. She's like a cat, trying to interrupt. She's super-curious in certain situations. Yes, so I think you're right. Obviously, for any collaboration you are assembled together largely because of one's disciplinary assets, track record being one of them, and things like that.

But when it comes down to me, often, particularly, I think, in some of the things that we covered and what I saw the team cover, incredibly deep and entangled social issues, I tend to prioritise different kinds of qualities, I guess. Maybe because disciplines would always just be an accompaniment anyway, but disciplines never really guarantee the sort of things that I'm talking about, which I value in all team work.

And in teamwork, that really quite important addressing social issues, so you mirror the social issues that one wants to aspire to. So, you try to remove as much top-down hierarchy as possible, and these sorts of things because these are social issues you're also trying to address. So, I think that's probably underlying the response that I gave.

00:23:45



DM What about this business of discipline, or reconceptualise the way you say, within the two teams that you watched, that were, in a way, the shape of it was, somehow, influenced by the shape of the programme. And then you saw that at play, any comments on that, the fact that there were many disciplines in each of these two teams? Or nothing special to say there?

YA Yes, again, I saw them more as individuals and collaborators, collaborating with one another. And you sort of saw glimpses of their disciplinary expertise coming through when they would refer to a particular theory or approach a particular problem in a particular way.

But I think, in the end, what really came through was, first of all, their openness to being contested in what was, perhaps, initially, assumed to be an approach that they wanted to take, but recognising, perhaps, that wasn't the best way to do something. So, again, that doesn't seem such a disciplinary trait, it's a quality, a disposition of a good researcher, I'd say.

DM Good. Good. Okay, so now we've spoken about discipline and we've spoken about place, and the other thing, the other big thing, and you've alluded to it in your story at the beginning, is gender.

00:25:37

So, you said, and to me, it would be really confirm that project or proven in ways that I did imagine, that gender is a really place thing, and that you cannot ask these kinds of questions, being grounded in a place.

So, you said that, but as you were watching all that, that was a big goal of this is bring this notion, or explore... Actually, it was more exploratory. Explore how far work could be done with that notion in teams of people who work in STEM. Can you speak about that, gender, in all this? How it was there, how people worked with it, what you saw happening?

YA On a broader level, I wasn't aware what the rest of the GDS team were really... I guess what I didn't quite get was how the GDS team were assembling the knowledge that they were seeing emerge from this project into that question around what is the relationship between gender and STEAM.

I think I saw it broadly, but maybe something that I thought, something very, very specific, I'm not sure whether I saw, but that's largely, often, probably, to do with my lack of participation in a lot of those things.

So, the question around gender in a much more consolidated way, I don't feel like I have seen it. I've seen it much more at that microproject level between these two teams. And even then, a lot of the work we did together was to break down gender much more and tether it to the specificity of these particular women's experiences.

And again, particularly with Chuin's, we worked a lot around this notion of intersectionality because the way gender, the term, was being used was pretty much replaceable with another term like women.

00:28:40

So, being much more sensitive to these participants' experiences, that were very much tied to their age, their class. Often, even with Maryam's research with faith-based approaches, they're all... We know this. But I think other than confirming some of the things that, perhaps... Like a much more nuanced understanding of gender in each of these projects.

It's still hard for me to know, and perhaps this is something you can fill me in on now, the question that you asked me about gender and STEAM, what has that been for the entire programme? What knowledge has this advanced, per se, if it has? And what is it about these regional approaches that had contributed to alternative conceptualisations, or, I don't know, something around that?

DM I can talk after. If I start talking, I won't finish asking you my questions because I've got lots to say. Definitely, I have lots to say about that. I had something else to say, just a second.

Okay, yes, I know what I wanted to say. So, before you start, you did this project, and then your involvement, mainly, with these two, and you read the general stuff that we were producing, does this confirm how you think about gender? Does it change it? Does it attach something to it? Does it do anything to your idea of how to work with that notion, or what that notion can or cannot accomplish?

00:31:01

YA I'm not sure if it's changed much, other than to see and to witness a sensitivity that we must always strive for when doing anything that's intervening in someone's life, which design tends to do. So, in a way, I guess the difference would be, enacting that sort of theory that we have always had, or literature's already had, but actually witnessing that done methodologically and in practice. I think that, in itself, is really important to acknowledge because one of the criticisms is that not enough sensitivity is enacted.

We all know the theory, not enough sensitivity is enacted in place. I think that's what was really significant, to witness that. But again, I don't know whether the practice of this... That kind of conversation between theory and practice, it's hard for me, because of the two projects, there wasn't any... It's not a dismissal at all because it's not about that, but I do wonder what it is that came out of the collective, that then speaks back to some of the theories we know about around gender and design.

DM Okay, thanks. Good question. At the end, I'm asking you things about what to do later, and some of what you're saying has not happened. So, now we spoke about place, discipline, gender, the other thing is about design, itself, making, designing, all the stuff that is your main discipline yourself, like mine.

So, any considerations from that angle on what you saw of the programme, of the potential of design, what design means. For the IDRC people, that was a big deal to do design. A big deal. They've had this thing about women and science forever, like the good old, we want more women in science. Global South.

00:33:45

But there was these two people, partly, not completely, they had read about it,

but they had also seen an accountant looking at the School of Design and what they were doing in projects in the Global South. The potential of that way of doing, and thinking, and organising, and they wanted, really, to give it a chance in these projects. And so that was that for them.

For you, it's your daily life, but for them, it was something new, and I think that was for the designers and the team, an opportunity to show or, as you say, enact the potential, I know design is not one thing, these different ways of designing that they believed in. So, from your point of view, that three years, in a way, demonstrating, enacting, attempting to do what design does best, how do you see it from that angle, the design part of it?

YA I think I find myself being one of the... I'm a design researcher and have been doing this design track all my life, really. So, this gives me some confidence to be a lot more critical about design than, perhaps, other things. I do ethnography, but I'm not as critical of ethnography as I might be with design. And that's a stance I take to my own work, for my PhD candidates, and everything else.

00:35:41

This relates to some of the things I said already. I am slightly exhausted and bored by the promises that design makes but, actually, never fulfils. But also, at the same time, doesn't understand the danger of what it claims to be able to do, which is to solve all the world's problems, and things like that, while doing very dubious things at the same time.

So, I think, maybe, I might like to see more of that pushback. At the moment, the way that you described design and the way the project framed design still frames it in a way that sees its value, which it does.

But for me, as an invested academic, I'm always flipping it around to go what harm is it also doing. When you think of it, think of it like that, which is kind of a dangerous position to be in, obviously, because you don't really want to expect that of the project, if that makes sense? But it could be a scholarly pursuit by more established scholars, if that makes sense?

This goes back to some of the points that I was making about design isn't this agent that, generally, enables gender to be X, Y, and Z. Or design isn't this neutral agent that just operates in a particular way. Design, in itself, just as much as gender is, is totally constituted by the particularities of where it lives, where it enacts, what it does.

And perhaps, maybe, I sense this in the reports I was reading, and this is no one's fault, again, but because of the established way, the disciplinary way design has promoted itself, there is already a coat-hanger, which, then, things get hung on. Which then tends to obliterate or, perhaps, iron out some of the really super-subtle things that would have been happening on the ground.

00:38:13

But then, because of this massive coat-hanger called design, we must hang this thing on this coat-hanger of design. It can often miss those things. And I say this, even for my own work, so this is why it's the most primary vigilance I have with my work. Because by somebody who's trained that way, it's so easy to do that,

but I can often miss, and catch myself going, oh, my God, I just did the same thing. I missed that by having been so blinkered to look at particular things.

So, because of this being a very active muscle, say, in my work, I think I was trying to look for that in the programme. And in a sense, for Maryam, and Chuin's, we didn't really get there because, again, I think that's wasn't the premise of the programme.

But that's something that, perhaps it's something that might be down the road, say, would be a possibility because that possibility is embedded in all of those projects. If you were to look for them, they are there. They're the things that are poorly described or ignored by the disciplinary versions of design. Those would be, definitely, nested in these projects, one just has to look for them.

DM That's great. That makes a lot of sense to me. Right, I love the idea. I suppose I try to do that in my own things, but not name it that way. So, what you're saying is that this is way too small an adventure to do that systemically. Having said that, you probably witnessed some of it.

00:40:30

I could say I think there's an example of that when you quite quickly... When we asked you about the final report, you wrote something about final reports, which was very good, about the, I suppose, what you call the coat-hanger or final report. And the whole idea doing a final report, is it in danger of... That exercise is in danger of creating a lot of trouble. I think we kept that quote in our final report, somewhere, at the beginning of the conclusion, or something.

You're not able to even go there to say the two projects you witnessed... Is there a place where you say that thing was happening or there was a danger of going... Because I was listening to you and I was thinking, in a way, we started so low, so tentatively, that I don't remember ever having a sense that we arrived with our big clogs and saying, okay, put design in the mix and you're going to solve that problem.

It was more like see how far you can go with this, maybe, and check that you're following the community in which you are, and don't presume that it's going to work. That was never really the idea. There's something interesting, have a look, and no penalty for failing. No final reports, we want a grand solution at the end, just see how far you can travel with these notions.

So, in a way, there were some inbuilt guards, I think, because maybe that was we're not going there, but maybe by naming it design, in itself... And as you say, it's always a danger, anyway. And sometimes there's the additional danger because I think that I am being more cautious than the people around me, I stop thinking that I am, also, a danger because I see things that are too big around, so I think oh, no, that's not me. I'm not doing this. But then, there's a blindness that comes with the contrast that is also dangerous.

00:42:55

I don't know. Anyway, you did a general statement, are you saying that it's there in the project, but in ways that you can't really say more than what you said? Or do you see bits where it was all in danger of happening?

YA I can't really pinpoint anything, but it's a general impression that I had when I either saw some... There were the videos that Kerry [?] shared, and then there's the reports that I read, the assumption of design was already made. And then, it was really about its performance or its application, or how that was then witnessed.

So, this is what I mean by the coat-hanger, or when you look for design and it's already set, with any theory, really, of course that's what you'll see. But if you say that, in itself, is something that we want to contest, let's then break that apart to then think of other kinds of expressions. Then you actually start to notice so many different things.

So, because that wasn't really an invitation, that I didn't see really signal to me, at least. And I didn't really see the projects being invited to do that, even though I think there was a bit of that happening in the projects, in the sense that I really remember having a very difficult discussion with Maryam's team. Yes, I think it was Maryam's team that really were thinking a little bit too much about this technology that women would then use to share workplace harassment and things like that.

00:44:45

I was questioning the premise of that technological solutionism as a way to investigate the context that they were wanting to do. So, there's a touch of that in some of the projects, which we were able to tweak a bit as went along, but we didn't really... Say , for example, if we take Maryam's work, her team's work, if I were in a parallel universe, say, and if an invitation was given to say let's also contest the notions of design, here, I would then contest, say, what participatory design would mean in her context, for example.

Whereas because Maryam pivoted her project really dexterously to abandon the technological solution, to really thinking about how even space is a design consideration. How women invited as a design consideration. So, all these things already had its lineage to participatory design, which she then brought into it, which was fantastic, and then it shifted the way the program went.

In another universe, I would then go yes, but what does this participatory design that comes from Scandinavia is not attending to faith-based particular experiences of women here. Because of participatory design having come from Scandinavia tends to prefer flat egalitarian relationships as a premise of what one then achieves. That is not a guaranteed context, in fact, anywhere, it's always an ideological one.

00:46:59

So, the fact that it comes in inside the design box is something that I worry about quite a lot. Because participatory design tends to be celebrated as something that is most suited to address sociopolitical issues. When in fact, there are other blind spots even within that conceptual framework, which in my work, where I do this work, it really hasn't worked, at all.

To demand a flatness, really, doesn't work in particular community settings,

where particular people should, and always will, have power. So, if you disrespect that... So, reconfiguring what participation means and the design then does has to be the premise of even that kind of work. I do see that.

DM Yes, that's interesting because you are so right. I'm listening to what you're saying, and I'm thinking of what Maryam did, which I found very interesting, and I interviewed her this way at the end.

You could even step back and look at what she was able, in the end, to accomplish, and put that notion on even relationships because she did design in an utterly uneven context. And reflect on to what extent these methods that she used and imagined were trying to do that, were they not? Try to do some design out not in a flat environment. So, you could describe the whole adventure that way, what was she able to accomplish by bending this, or reinventing this in a context where doing flatness wouldn't have gone anywhere.

00:49:10

YA Yes. So, something else emerges that rescripts what PD was, then became, through what she then did, yes.

DM So, when you do think that way, this is my own curiosity, here, what's the best stuff you've done in that direction, where you actually... Because I'm listening to you and I think if you had, maybe, more time, or even from the get-go, we could have always had... Pay attention to this kind of stuff that is there and bothers you, and will not be addressed, or you don't think that you have the means to begin to capture well or address well.

And always pay attention, in a way, to the border. You always have a border of what you can do and what's on the other side, name that all the time, is what I hear you say. We could have had a more active explicit question, there, to say we're aware that what we are bringing has a lot of preconceptions, and we invite you to question these, as well.

Okay, having said that, we could have done more of that, I think. But could you give me an example of where you think that this way of thinking, which you said may be more mature designers, or you, as a PhD supervisor, can actually do well, or have done well, or it's done something. That critical analysis of the very canons of the discipline that you think has been interesting, useful. Have you got examples of that?

YA Yes.

DM Or just one? Because I find that interesting, but I don't see it landing, so maybe you should give me an example.

00:51:01

YA Yes. Well, the state of the discipline, at the moment, in design is starting to recognise what we just talked about. So, again, that's why I'm saying, well, it's not one's fault, in a sense, because the discipline hasn't even recognised its own short-sightedness, in a sense.

The movement of really breaking the ossified design apart is coming from the

Global South and Indigenous movements. So, these two things have been very powerful currents. But by being Global South and Indigenous movements, obviously, these are always positioned in the margins of things, so one, as a scholar, always have to be careful about, well, who are you reading? Whose work are you citing when you do this work?

Partly because you jump on Google, you do keyword searches, these marginal work, case studies, or theories, would never come to the top of any searches. I'm just explaining what you know already about the hierarchy of things. Which is why even though it's recognised and it's been mature, and it's been in discussion for over a decade, it hasn't quite made it into the mainstream discourses. And then, the pattern circulates because, as one studies design, you study from the canons, and the canons are always the same.

00:52:46

The question that you're asking is... That's why it requires individuals to have come at this place already by having travelled along different paths, which I tend to find that there are many more that I bump into who either identify as Indigenous or they are located in the Global South.

And so, it's not by accident that I'm doing this work, having relocated, here, to Australia 20 years ago because this conversation isn't happening in the UK, where I used to be, when I did my first degree in design. So, there's that.

And so that's what was... I think Raquel would know this. Particularly, because I think she's part of discourses of that in Latin America. Escobar being another really big advocate of that design for the Pluriverse is, basically, around... It travels along similar sorts of routes.

I'm much more familiar with Indigenous and Aboriginal discourses around that because of where I am in Australia, which is not the same as what, say, Escobar talks about. Different kinds of politics, obviously. It's very difficult to hear what's happening in Africa, for example. I know some scholars who do publish. They're studying in Namibia, or studying in Johannesburg, and places like that, but there is an equivalent of an Escobaresque thing, say, coming out from Africa.

So, I guess what I'm trying to say is that without having these allies to, first, guide you or model certain behaviours or certain ways of being able to talk about these design that is closer to your regionality or your language, or mindset, it's really difficult to then do this work yourself.

00:55:00

So, I'm saying this because I found that being a scholar of that, it took quite some time for me to even develop the confidence to be able to do this sort of work, even say these things publicly. And to then locate the kind of allies in Australia, who I'm joining in with, as opposed to seeing it in always in isolation to, say, Europe or the US.

So, I think the questions that you're alluding to, in terms of what could have been done differently, or things like that, I'm tracing it back to much bigger structures

at work, which we are always experiencing the symptoms of, just as it would be gender, as well. It's difficult to bring that whole [overtalking].

DM Yes, you're talking as the whole... Then you're talking about the you're in a university funded by IDRC. But having said that, to make that more explicit in a project, it doesn't hurt, but indeed, you start questioning the structures and who you research with.

Yes, okay, very interesting. If I had the whole time, I would see the kind of places where I think I've been able to do the most of this, over the last three years, is with some students. It's serendipitous. All of a sudden, whoops, I see something, and then I can do something, or I can just take the time to make that happen, or help it happen.

00:56:56

Because students come from everywhere, this is a bit amorphous, who is your student, and sometimes things happen of that nature, I think, more easily than in my research, which is very often very structured, and where that kind of stuff is harder to organise or predict. But to create circumstances where this happens is often very serendipitous.

It's like a whoops, somebody in your class, somebody who is your TA, all of a sudden, you can have a line of things that can happen that, for a while, is marvellous. And then whoops, it's finished, like I said. But anyway, yes. It's kind of constant attention to me, where I can do some of that. Very interesting. More on this later.

So, the last more formal question is about the future. The question is what it is that you could imagine, where could this go? We asked that to lots of participants who have said many things, like, well, if you could dream a way, where would this little thing that happened for three years go? It's a funny thing because it's about... To me, now it's finished. We really finished it in January. We did crunching numbers after.

So, in a way, it was the virtue of the project, it was to be short, so we really invested a lot of time and attention because we knew we only had three years, and in that way, it made it dense. Things happen that would not have happened if we thought it could last forever. But at the same time, we're stuck with something which really finished, and some things that started that will be hard to continue easily. Partly because we've gone our own ways. Partly because we don't have that concentrated number of resources.

00:59:04

Anyway, all this to say, for yourself, and for what you've seen, if you were to dream a way of a future for this, where would it go? I can already see this part about the limits of design is an interesting intellectual question, just with all the stuff we've gathered. But what about what would you think or invent if you could think about where parts of this could go, or you could go with it, or the whole thing could go?

YA I think, maybe, we talked about this earlier in another conversation, but I think a conference that's specifically on this would have been, or would be, so



interesting. It wouldn't be, I guess, a pipedream, it's a very probable outcome.

And in so doing, in my mind, when I suggested earlier, six months, whenever we talked, months and months ago, I thought that could be a really pragmatic way to bring people together. But you then are making it open, so that, perhaps, it could have other people interested in gender and design in STEAM, to come and present.

I have been a general chair for two conferences over the last four years, and I've done my time now, but the interesting thing about conferences... I see it as a design project. I see a conference as a design project. So, what you then embed in the conference is a particular agenda to create a particular critical mass around something and create particular experiences for the delegates. As we would say, oh, yes, you know that conference we went to two years ago, and this came up.

01:01:11

So, there's a very marked signature that you can give through a device called a conference because of the critical mass and the things you can... You could quite easily organise, very intentionally, to bring about discourses that you don't really get to hear about unless you go searching for them. And to have a cross-pollination of very different people because you cohere panels that way, or you cohere papers that way, or whatever it is.

It's a fascinating way of designing that I've learnt, having done that over the last four years for two quite significant conferences, one for participatory design, and another for service design, and achieved different kinds of things. In a way, that has, quite pleasantly, achieved those things that I just talked about.

So, each of those things were marked by particular agendas that we, as general chairs, have embedded into the programming of things. So much so that the version of the participatory design conference, that people attended to, is really contrasting in difference to, say, other ones that had preceded it and the ones that are about to happen.

Design, at least, in my general memory of things, hasn't really been... It appears as a sub-stream of a conference, but not, in itself, an entirety. I would be really fascinated if that were to take place. It would allow us to have these sorts of conversations much more intensely because you would programme them to be so. So that would be my suggestion.

01:03:03

DM Where in the hell would we find the money for a thing like that? Do you see that possible?

YA Yes, so with most conferences, you have to have a host that would underwrite it, but then you make the money back through selling tickets. Generally, through other sponsorships, breaking even is a given, even though those who work on the conference organising, that's timing kind.

DM You did it, but you had some kind of... Yes. thank you, that's really interesting. I can think about that better. Is there anything else you want to talk about because

we have another 15 minutes? There's some things I'd like to say, but I've gone through the cycle of what I wanted to ask. Is there anything else that I didn't ask that you would like to talk about as a, in a way, final remarks, or things that you observed or you would like to say?

YA Yes. Well, I'm fascinated by the meta things of the programme, particularly in the organising and managing. So, there's the central team in Carleton, and then there's the regional projects, and things like that. Partly because we haven't really been successful, but there are a number of programmes of a similar kind that I've been part of that tends to be... A consortium of researchers all around the world, but united through a particular problem, say.

01:05:07

One of the ones that I was on last year that fell through, so it didn't get taken up, was around care and cities, so how care, perhaps, either for citizens or environments in urban centres were being done. I was from the Asia-Pacific team and there was others from Latin America, and things like that. So, not quite the same, but a similar sort of thing.

I did wonder what we can learn from these things because of the challenges of the scale of these programs. The size of the funding and the scale of these things complicates things, obviously, and I, personally, have been part of those bids that have over-worried... The effort that goes into the pragmatics of how you bring projects together and do these sort of things, without thinking too much about...

DM The topic at hand?

YA Yes. And other sorts of things. I was really interested in your experiences in reflecting on the GDS.

DM Did you see it as a promising thing, or as a failed thing, or as just an occasion to reflect further about the shape of these programmes?

YA I don't have an opinion on whether it was that way, but I think I'm trying to learn it from a, again, design perspective, really. How do you design something like this that maximises the kinds of intentionalities that were invested from each of the teams, but also, other players within the programme? Yes, and obviously, there's the politics with the funders and things like that.

01:07:27

DM On this, something funny happened. I was very involved in writing that final report, putting it together, there was bits and pieces. I was trying to think that it would be some kind of coherent something, with something at the end that was more than the sum of its parts.

I went to listen to a lady who was on the International Panel on Climate. I don't remember the name of that thing. There's one on biodiversity and there's one on climate. And she was one of the only arts and social science people on it, she's a historian, and she came to talk about this. It was a series on climate and history.

She spoke about the difficulty of being a social scientist, a humanist, on these, and then she spoke of the impacts in which that panel was, and many of the UN, this is not UN, structures because it's been jammed. Efforts to tackle climate changes jammed by Indigenous people and are jammed by countries of the Global South, who are saying this is not our stuff, it's your problem, your science, we're not interested.

The countries are using mixtures of political stubbornness and scientific scepticism, coming from the Global South, that is jamming efforts, well-intentioned efforts, from Northerners, who are panicked about the climate.

01:09:10

I was in the middle of writing that report, and she was talking about the impossibility of talking, and I was thinking, for Christ's sake, I'm talking about we, for three years, with twenty teams, really, actually talked. We didn't go very far, but we actually talked. The ways that we tried to design and redesign structures that follow that dialogue, instead of all the multi-talking.

So, it's a modest result, but what it did is that the shape was always following the possibilities of talking, wherever that went. But the way she was talking, I was thinking, well, are we being more successful than this? Nobody got their back up. Of course, we had the money, so are they just being nice and talking because there's money at the end? But I think some stuff happened there because that was not that much money, anyway.

I think some ways of speaking and interacting and allowing mutual discoveries happen more than what she was talking about. They were so jammed, and they look so naïve in their assumptions in these panels and so sure of their science.

I was writing the report at the end, and I thought but there is something there. I don't know what it is that we discovered, I can't describe it, or where we're going, but throughout always find this constantly changing shape of our programme to keep people talking, wherever that went, was a commitment. Which, maybe because it was short, maybe because we were not about to solve gender and science at the end. They want to solve climate change.

Maybe we had modest goals that made for modest talking, but we did talk more than what you're saying, and there was more trust there than what she was saying. We seem to be left with some fair, I think, measure of trust, mutual trust.

01:11:42

So that's one thing that I was happy with. It was very modest, and I don't see it going anywhere in a hurry, but I even thought, maybe, I should take the conclusion of our report and send it to that lady, and say, well, here's a way to do it.

The other thing is teaching. I think that, there, we all had teaching assistants at Carleton. There was all sorts of money and commitment to teach people in the teams, and it was built in the funding structure that you had to have some kind of multigenerational something somewhere.

And Maryam, in particular, was very grateful for the opportunity to have money,

to give money to young women who could help her do stuff, in an environment where young women can do nothing, for reasons that she saw, including safety. In the structure of her university, she could not have a woman teaching assistant because she had to bring them here. Whereas with that funding, she could do whatever she wanted with her money, so she could actually go where she could fund these young ladies.

She had an opportunity to give them the opportunity to be scholars, emerging scholars, that she didn't have in her own institution. There are ways that it seems that money, because it was tied to women, gender, those are really women, women-gender in that way, help address, or help, you could say, training in ways that was not possible otherwise.

01:13:22

And at home, here, I think we could have done more to make the apprenticeship adventure more... We should have been more attentive to what was happening there, learning as we were going, and reshape it, as well. Because I think we've missed some opportunities to train even more.

I think we allowed some young, mainly women, sometimes young men, in STEM, to more interpreter-transdisciplinary things with people in the arts, which is very rare on campuses like ours, and to think about gender. But we could have done better.

One of the things, I was listening to you before, which you were always insisting on from the get-go... We didn't have a definition of gender when we started, and people were saying how do you define gender, and we refused to do that.

But then, I think, with your support, to me that was important, to say that doesn't mean don't have one, it means start with the one you've got and make the one you've got explicit. Start saying what it is that you engendered. Family relations, women, men, whatever you want to talk about, but try to make it explicit and then work with it and see where you're going.

I found your interventions were important because, at first, I was all for not having a definition, but I had to replace it with something. It was this kind of project of making these notions explicit, and then identifying why they were jammed. Because a lot of them were really jammed in some very elementary ideas of gender and to help them making it more dynamic, and subtle, and open to possibilities, or even, other dimensions of it they hadn't thought.

01:15:26

But to me, time and time again, it's as if there was... Where I liked it, is that there was a lot of researchers, men, in particular, who had been wanting to do this and had no opportunities to do this. Very often, they were talking about their own family. They were talking about their aunt, their mum, their grandma, and them as the finance guy, engineer guy, fishing guy. Or women say I could never talk about what women did in my family.

It's what you're saying about the minute that the two projects were going a bit out of their technology thing, all of a sudden, they made women's knowledge, practices, ambitions more visible. They were wanting, initially, to restore, I think,

or bring in their own work, the value of what they had always witnessed in their family. Their family, like their mum, this was not my family, but their cousins in the market, whatever, and it was an occasion to go local.

There was a lot of love in it. to fondly talk about their aunty who held a budget, do you understand? And they had never had a way or a place to say that in their banking studies.

YA Yes, interesting.

01:17:01

DM That was fun to watch. And it's funny because then, what gender did is... One of the things they were happy with, and they're saying, for us, gender was like this feminism, you guys are wrong, kind of thing, that gets their back up. But when they saw it as an opportunity, to actually speak out, tell how they value what women around them did, and have a language to say it, and also, methods and ways to actually make it legit, in a way, in their work. They were really happy with that.

YA Yes, I can imagine that's very empowering.

DM So that I liked, and I did not see that gender would do that to that extent. Gender pointing at local, very, very important. Everybody didn't turn universal. They turned local because it was gender, they had to turn really local, and that was not within the script. We didn't say you have to be local. We never said that.

Gender as a way to talk about families and their own families a bit [?] large. I'm a historian of families, so I was really happy to see that. To me, that was generations in our houses, and markets, and liminal spaces between houses and public, and all that.

It was an occasion to speak about the world that I always try to speak about in my work. But it really did it, in a way that I did not anticipate. What did I want to say. we've got another four minutes. There was a few things.

I learnt a lot from what you said. I like it. I'll go back. This is more personal, but yes. Maybe we should go back because we only have three minutes, to what do we do with this interview. So, I'll stop this. I'll stop recording. We'll do that, stop recording. Stop.

01:19:16