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When Methods Create Space: A Conversation on Intertwining Disciplines, Cultures and Communities in Design Education

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When Methods Create Space in Design Education: Insights for future practice

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Abstract: The nature of design education is changing and must continue to change in response to increasing complexity and uncertainty. This paper presents a conversation between two UK-based design educators who explore how these contemporary societal challenges are being tackled in two interdisciplinary Masters courses aimed at relational and complexity-led approaches to design. The conversation reveals the importance for complex and collaborative practices to embrace relational, visual, reflexive and flexible modalities. This in turn highlights the need for teaching to evolve beyond fixed design processes in order to develop flexible practitioners with the critical capacities for navigating uncertain futures.

Keywords *design education, relational communication practices, complexity*

Introduction

Design education faces increasing complexity as we prepare students to work across disciplines, cultures, and communities in uncertain and shifting contexts. This conversation between Niki Wallace and Laura Knight, explores methods and practices for creating more inclusive collaborative environments that embrace this complexity rather than seeking to simplify it.

Drawing on their experiences leading interdisciplinary MA programs, the authors share insights about how relational communication practices and visual methods can build meaningful connections across disciplinary and cultural boundaries. Of particular focus is how teaching approaches that privilege making, visual communication, and reflexive practice help develop students' capacity to be flexible practitioners. Rather than teaching fixed solutions or standardised approaches, these pedagogies emphasise methods that students can adapt and apply across different contexts and collaborations. Through examining specific teaching strategies and broader pedagogical approaches, they reveal how curriculum choices and teaching methods can create learning environments that prepare students for the interconnected challenges they will face in their professional practice.

Prior to the conversation presented here, a preliminary discussion between the authors explored themes and topics of relevance and informed the decision to use a conversational method. Conversation is a key method in Indigenous cultures (Yunkaporta and Kirby, 2011) for example, 'yarning' in Aboriginal culture is a "structured cultural activity that

is recognised even in research circles as a valid and rigorous methodology for knowledge production, inquiry and transmission" (Yunkaporta, 2019). The authors acknowledge their privilege and benefit from access to such knowledge and draw lightly and respectfully on these traditions in this conversational process. The conversation explores two key questions: Which methods and practices are most effective in intertwining disciplines, cultures, and communities within design education? And how can design programs strategically promote collaboration across different fields and facilitate the cross-pollination of ideas?

The conversation took place online using Microsoft Teams. It was recorded and transcribed using Teams' internal transcription and coedited in Notion to correct transcription errors, include citations and references, and eliminate content not relevant to the main objectives of the conversation. Grounded theory (Glaser, 2014) was used for analysis to surface emergent themes by tagging content using type and colour. These tags were analysed to surface broad themes in the conversation. Four key themes emerged; relational communication practices, visual practices, reflexive learning environments, and teaching for complexity and uncertainty.

In relation to the first theme, relational communication practices, the authors discuss the importance of building shared understandings, shared language and space in design education. The second theme addresses the use of making and visual practices like sketching, mapping and prototyping. The third theme was the development of reflexive learning environments, safe spaces for students to engage, where the pace and time for reflection can be managed, and where student decision making can be supported. Finally, the conversation explores approaches to teaching for complexity and uncertainty, moving beyond standardisation and 'norming', embracing messiness and emergence and building capacity to sit with discomfort enhances the development of flexible practitioners.
Images are used throughout to demonstrate the implementation of the ideas discussed in practice.

The conversation

Niki: When thinking about methods or practices in design education that effectively intertwine disciplines, cultures and communities, I always look to relational and communication practices. I feel both are fundamental in how we approach collaboration, and anything where we need to build shared understandings. There are particular methods to design that come out of participatory practices that I find effective in other scenarios. In Global Collaborative Design Practice, we have a multidisciplinary cohort, they don't all come from design backgrounds. The students come from different undergraduate backgrounds, they have different work experience as well as different cultural backgrounds, so we start with relationality and communication practices and build from there.

Laura: I think talking there about relational communication practices, I wonder how many people even frame design practices in that way. I find that using the methods of the discipline to create a shared language and a shared space is not a given. When I was running the Graduate Diploma at Chelsea, the idea of '*talking about things we can see'* was a core idea I used with the students. The students came from such different disciplines and disciplinary backgrounds, from very different cultures and they had been schooled in very different versions of design, some had not studied design at all.

Niki: There's something interesting about using those relational communication practices to surface how we think about things. It becomes a way of building insights into one another that not only reveal how we work and what guides our thinking, but it also reveals where we overlap and where we seem different. Using practices to structure those conversations is helpful in surfacing similarity and difference and holding space for both. Plumwood (2005) talks about this as a precarious balance - to 'experience sameness without obliterating difference' and to do that through verbal communication practices feels in some ways, a more translatable starting point for visual communication practices.

Laura: It is a real gift in terms of thinking about the studio. It makes you want to throw everything out of the window. I had this revelation in my first year of teaching that, for all that we're a visual discipline, our pedagogies are very verbal. Which led to quite a lot of thinking around what the visual versions of some of these signature pedagogies might be (Shulman, 2005). We really started to collectively explore visual communication practices as shared, collaborative, sense-making methods in the studio.

Niki: Yes, I think we've found the same thing in MA Global Collaborative Design Practice. We don't have the same mix of international students that is common in other courses, so there are multiple accents in the space. Even when everyone can speak English, we have to learn to understand one another's accents. But there's an extra language in

the space that unless you point to it and remind everyone about it, it gets forgotten. That is the language of the tools that we use - design practices, drawing practices. We can sketch, we can doodle, we can map, we can model and each of these helps visualise and communicate our ideas.

That difference between text-based and making-based understanding is fascinating. To talk is one thing, but to make with a group of people through prototyping - whether drawn and doodled, mapped and visualised, or built in a more 3D model sense - there's something that allows everyone to reflect their understanding in a different way. It not only shares across disciplines and cultures but creates a new way for students to connect and communicate. It's so crucial to the practice of design. It seems obvious but it's not always obvious, which is fascinating.

Laura: Exactly. It also changes the pace of things. On the Graduate Diploma we started using sticky notes during studio discussions. I know it's a bit of a cliché, but there was something about the size of the note that really made you think about what you were putting down. It really increased the sense of care in the room around what was being said, how it was being said and whether it was accessible. That filtering, editing, brevity thing feels like a core competency - being able to distil and synthesise. Nobody is just mindlessly speaking, writing or drawing when they apply those methods, they're thinking about and through design.

Fig 1. Image of a 'sticky note crit.' An early experiment in visually led pedagogy taken from Knight (2019)

Niki: We have a reflective doodling process that we're actively teaching the students, particularly as a tool they can use when they're reading, so it becomes a sense-making process. Using this idea of doodling, sketching, drawing, illustrating to actually sit and meditate over the drawing. It's not just about capturing what the text says verbally into an image - it's about using drawing as a process to slow down and think through what is actually being said in that text.

The doodles become provocations and prompts for further discussion. I'm finding it's a nice bridging activity that lets us read and find different things in the text that jump out at us, that we can then have time to sit and reflect on. By having that slower reflective time, we're able to have far more engaging and lively conversations about things. It's been interesting to recognise the pace and the process as being pivotal to how we're then able to do collective sense-making through discussion or through other kinds of sharing mechanisms.

Fig. 2 Image of 'reflective doodles' from Wallace's workshops in reflective doodling methods

Laura: I say a lot that we need to stop talking about THE design process - because it suggests there's just one way to do it. I will often get students to diagram their 'process.' There's so much information in those simple, abstract representations. They reveal so much about how we each think and make decisions, how we perceive time (Knight and Vickress, 2019)

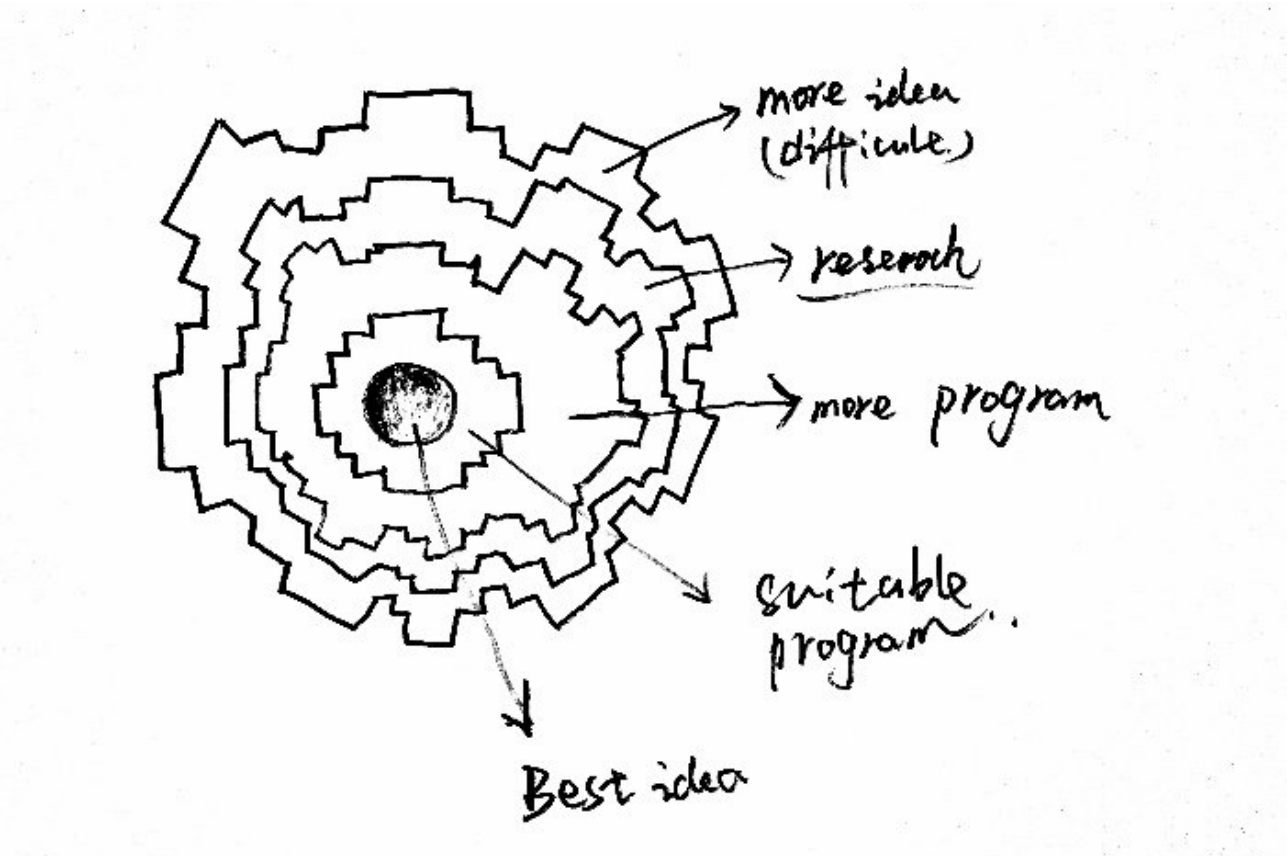

Fig 3. Student process sketch taken from Knight and Vickress (2019)

Niki: That reminds me of a student from our 2023 cohort whose major design project was about pain and giving people different ways of representing pain they were experiencing. She was working with a physiotherapist and had this kind of modelling clay that she would give to patients so they could model what the pain felt like. She had this wonderful object with all these spikes on it, and it was the one thing that everyone could look at and say, "Oh yeah, I've felt that spiky sharp pain before."

It's completely abstract, in the same way that the shapes are completely abstract, but we make meaning and sense from them based on our different experiences and influences. There's something interesting about aspects of experience and feeling that can transcend some of those other barriers. Not always - it's not perfect in that sense, but it gets us closer to communicating things we don't have words for, or for something so complex we don't know where to begin.

There is huge potential for this kind of work, for people seeking medical help who don't speak the language, for people with nonverbal neurodivergent traits, or for those recovering from stroke. There are so many possible applications for that method of communication. It was such a wonderful project because there was something in it for everyone. It was very much about letting the shape tell you something about what it is.

Fig. 4 ExpressABILITY, Final Major Project, Kiara Corso, 2023

Laura: It really starts to create opportunities to bring different ways of knowing into the room by making those different interpretations of the same question visible and tangible. The fact that you might have two very shapes or diagrams sat next to each other opens everyone up to the idea that there are multiple ways to experience the same phenomenon or respond to the same question. I think, even as designers, we tend to assume that people parse the world in similar ways, that we're all just inherently 'logical' creatures. It's not true. You can really challenge those assumptions just by bringing that information into the space in the simplest possible way.

Niki: Yeah, there are moments in art school, with colour theory where you start to get a sense that what I see as this particular shade of blue is not what you see as this particular shade of blue. It's fascinating. These kinds of moments have a way of revealing (in a simplistic way) why plural perspectives are so important - that it can't just come from one culture, from one discipline, from one idea about the world. We need many different kinds of ways of seeing and being and thinking and knowing. Escobar (2018) talks about this as the 'pluriverse' where plural possibilities co-exist and I think we are seeing more and more the way things that are consolidated into a singular form don't always make sense in plural contexts. Adapting, learning and responding in plural ways feels more important the more complexity you're dealing with.

Laura: Precisely, how does design function as an intermediary practice? One that brings different types of knowledge into relation with one another. It's tricky because design is a norming business right? Historically, it has had this sort of norming, universalising, problem-solving mentality hardwired into it (Lupton et al, 2021)

Niki: Yes, that idea that it's got to be smooth and elegant, and there's no room for messy complexity in 'smooth and elegant' solutionism. That idea of normal, that idea of consistency, of a 'one-world-world' feels easier because there's less to contend with. There's something dangerously desirable about the simplicity of it. And norming is deeply embedded in Western design's mediation of desire (and consumption as a form of desire) but norming is also an act of violence that mediates a particular culture whilst simultaneously devaluing and erasing all others (Bourdieu, 1984).

Laura: I find in Graphic Design, people can be very comfortable with the idea we mediate people's relationship with culture. We're fine with that, but we seem to get uncomfortable with the idea of mediating in other ways. For example, working in data visualisation, designers seem happy to just accept the data as truth, clean them, visualise them, create a nice dashboard. How do we apply that same set of principles, methods, and visual grammars to messier things? What breaks? How do we use them to question the completeness of those data, how does that 'incompleteness' become part of the visual language? What's our role in that?

Niki: I wonder if that's also a particular gaze that designers have on the technical - the technical skill set, the technical production of something, the technical realisation of something. There seems to be a subjugation of the soft skills that it takes to really engage with something on a more complex level. The combination of soft and hard skills - I call this 'smart skills', in the same way that Joseph Nye (2009) talks about 'smart power' as blending strategies from soft and

hard power. In design, when we're really engaging with complexity, when we're led by the complexity in a problem space, we're able to really harness the power of both. We're working with softer relational skills, being able to recognise plurality, effective communication, and all the different interpersonal skills that enable good working relationships. But designers also bring technical skills that allow us to look at all of that, make some sense of it and present it in a way that allows people to engage and invite them in, even when people are resistant to engaging with something complex.

We talk about how we mediate culture, we talk about how we mediate desire, but when designers are engaged in different ways, we mediate a lot more. When we straddle boundaries and bring people together, we help build consensus, we help build shared understandings—that intermediation feels like a natural extension of what design as mediation looks like once its re-oriented away from consumer culture.

Laura: Intermediation is front of mind for me now because I think a lot about the institution as a medium. The spaces that exist between different institutional layers and the intermediation role that design methods play in those spaces. In higher education literature, that gap has been called the 'third space.' Whitchurch writes about the challenges of bringing those things together, helping them speak to one another in ways they can both understand and respect.

When we think of collaboration, and how we promote it, I think this relates to the way [graphic] design practice is positioned within education. We still tend to position our students as professionals and that's a choice that privileges tacit knowledge over explicit knowledge. There's a lot of un-communicated 'stuff' that just drains out through these shiny 'outcomes.' It perpetuates the 'make it pretty' problem.

Niki: Yes, behold while I put on the lipstick.

Laura: Yes! But it strikes me that if we were better at really positioning our methods and practices, if we were more conscious of them, they could become a more important part of the knowledge generation process rather than just dissemination.

This has huge implications for our signature pedagogies. What happens to our feedback, what happens to our studio cultures if we start to position students very truly as knowers, not just as professionals? How do we start to honour and capture some of the knowledge that's embodied in these things that get made. The decision-making that we sometimes skirt around in the race to a 'professional' outcome.

Niki: There's something interesting about that. It's almost illogical when you think about what this profession is and whether it is going to exist in these unknown futures that we face? When we teach for professionalism, when we teach for a particular idea that we have of what practice is and what it means to go out into industry - are we setting up students for failure? Long term failure of short-term jobs? Because they're not given a set of skills that is expandable and flexible.

It's the adage of teaching how to learn versus teaching something I have learned. If I can teach you how to learn, you will always be able to learn more. But if I only teach you what I know, that's a limited exchange of my knowledge to you. There's something expansive about different kinds of skills that are immediately applicable but also adaptable and malleable into lots of different spaces.

I wonder how much of the spectrum we cover in terms of what's possible beyond your next five years. Are we talking about professionalism, are we talking about research, are we talking about activism, are we talking about having your own startup and entrepreneurial possibilities? Are we covering the spectrum of possibilities and thinking about what design might be in 20 years' time, or are we just thinking about how graduates get a job in their first year out?

Laura: I always go back to Barnett's 'Learning for an Unknown Future' (Barnett, 2004). I find it relevant that he describes knowledge and skills as a cul-de-sac. It resonates. He presents a four-way diagram called 'pedagogical options: a schema.'

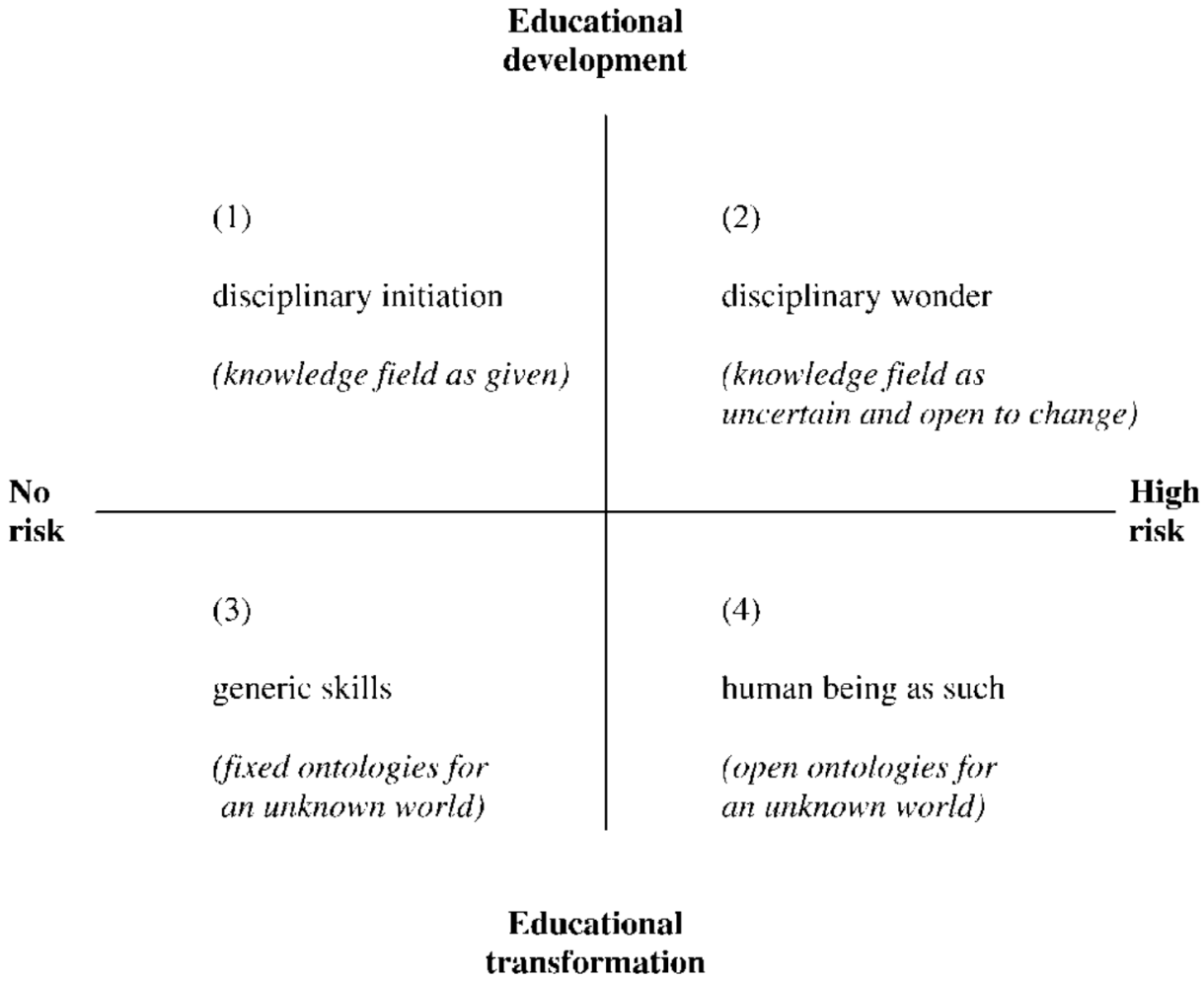

Fig 5. Pedagogical options: A Schema from Barnett (2004)

The horizontal axis is about risk, going from no risk to high risk. On the left-hand side there's disciplinary initiation. This is about advancing understanding and skills within established academic and professional identities. It's an outcome-based logic. Uncertainty and complexity are reduced, if present. So, it's basically, a disciplinary cul-de sac.

In the top right, he describes what I recognise as creative curricula. A little riskier, it challenges the student to develop their own position on things and actively recognises that the field is uncertain and open to change. He calls this 'disciplinary wonder'.

At the bottom left corner, he's got generic skills with fixed ontologies. In this he points out a brilliant contradiction that I see all around me in education, the idea that we can't create human beings who can deal with for uncertainty by ensuring particular forms of certainty in the curriculum. Another cul-de sac to an extent.

Then in the bottom right, is the open ontology space. A curriculum designed to transform human being. I always interpret this as developing an openness of mind in design education. One that means you are able to keep transforming your methods and practice in a multitude of different contexts and in response to different types of complexity and uncertainty.

Niki: This is great, it's bringing to mind for me the four aspects of the transition design framework (Irwin et al., 2018) particularly the posture and mindset of the designer. I often talk with my students about the importance of mindsets and what you embody as a human being - are you flexible? Are you thinking in open and plural ways? What kinds of things are shaping your attitude and worldview?

You can be a fixed operator that has no flexibility, and every single project you come into will be a challenge, not because the project is hard, but because you are a hard object the project butts up against. But if you approach things with more flexibility you can adapt. It's like the tree that blows in the breeze instead of snapping the second the wind picks up. There's something quite crucial about that adaptability.

And not just for you as a person, but also for your skill set, for your toolkit. You might have a tool, but it might not be the right tool for the job. If the 'right tool' doesn't exist, then how might you co-create a tool with the people you're engaged with. That co-created tool might only be right for that context or moment, and that's OK. It doesn't have to continue to get used over and over again.

Laura: You're allowed to not design a 'thing.'

Niki: Exactly. It's fascinating to me that that's what we do when we talk about the design process, when we talk about having a toolkit it doesn't always live and breathe in response to changing conditions. Toolkits have a way of becoming so concrete that they rule out other possibilities.

Laura: Your education should be a resource, not a determinant (Stenhouse, 1968).

Niki: Yes, they're talking about who you are and how you are as a person. I played with a framework in my PhD that had that kind of approach. It combined postures/mindsets/attitudes with particular modes of thinking, theories and types of design approaches that you could assemble in response to a given context. Responding to questions like *How do I need to be? What should underpin my thinking? What do I need to do? Where do I need to take action?* would inform the assemblage for a project.

The blending is what responds to context. It allows you to meet the complexity of the problem with the 'right' assemblage of people, ideas, modes of thinking and doing.

MINDSET	THINKING		ACTION	
APPROACH & ATTITUDE	THINKING TECHNIQUES	APPLIED THEORY	INSIDE THE STATUS QUO	OUTSIDE THE STATUS QUO
flexible	intersectional	multi-level perspective (MLP)	transition design	autonomous design
collaborative	relational	social practice theory	redirective practice	design activism
storyteller	values & framing	theories of power & change	design for sustainment	design for elimination
organiser	radical design thinking	needs & satisfiers	complex adaptive systems leadership	

Fig 6. Typology of Design for Transitions used for assemblages in design, Wallace 2020

Laura: It's that continuous integration of theory and practice that makes design a special discipline, but also so hard to talk about because there's so much about design outcomes, design practice, that can be methodologically tricky to describe.

Niki: There are two things I want to pick up on - one is about designer identity and the other is about the theory-practice piece. I wonder whether inherent within the designer identity is play. We didn't stop playing with ideas, with our toys and our tools to make things. Often part of our process may be to design a game, and through the game we'll do something else together, so play becomes a mechanism that unlocks other possibilities for design. That creative muscle is continually being worked out, in the same way that someone who goes to the gym and deadlifts 100 kilos everyday can lift that weight with ease. There are disciplines that are discouraged from play because things need to be firmer, more logical, more specific, and so their creative muscles don't get utilised in the same kind of way.

One of the things that stood out for me during some research interviews I conducted with designers was the way that designers identify through their making. Whether at a dinner party or a networking event, their introduction to 'who they are' was, "I'm a designer" or "I'm a creative professional." It doesn't seem to matter the setting (personal or

professional), that's how we—as creative people—tend to identify. It's innate within us in some way, interconnected as part of who we are.

The other thing I wanted to mention was about theory and practice and the challenge that designers have in articulating what we're doing when we're bringing those things together. There's so much about design that's tacit, we don't often have to break down and describe what's going on in our minds when our ideas are happening or first materialising.

If someone asks you, "*how are you ideating?"* it's difficult to respond because when it happens, I'm not really trying to capture the "*how*." There's something tacit about design processes that is perhaps less tacit in other fields' processes, and I wonder about how powerful it would be to build our capacity to capture and communicate those tacit moments? I think the only time I've ever really done that was during my PhD, so I try to actively encourage students to build that consciousness and articulate their "*how,*" not just for ideation but also for mapping and sensemaking and for the relational and collaborative aspects of their process.

Laura: I find I oscillate between two necessities in practice. You must develop a sensibility as a designer; to be able to play and allow things to emerge. But there's a type of sensitivity that also needs to be developed.

When I took on the Graduate Diploma, I can see that I developed this very methods-based approach to teaching that I've brought forward into MA Communicating Complexity. It's all a methods consciousness; being able to articulate what it is that you are doing. *"This is a method, these are the assumptions built into on, here's how I am using it, here's the kinds of things I am making with it and here's how I am evaluating those things."*

These days, I love writing a methodology, in the academic sense of the word. It always amazes me how much is involved in a design process when you start to write it down. Among Graphic Design educators, I find there can be a reticence to talk or write about creative practice in the very systematic and transparent way that academic work requires. But I find that developing a sharper articulation of method is useful in a collaboration, where the methods and assumptions can be very different.

Niki: It's interesting that the whole idea of the design thinking process formulaically describes something that isn't really getting to what we're talking about in terms of the intimate details of the method we will undertake. It's oversimplifying a far more complex and more deeply engaging process.

Laura: When my mum did her advanced driving test, and I learned that a big part of how she did that was through a talk-aloud protocol. All the time you're driving, you're talking consistently about the choices you're making. She said at first it was weird because this knowledge is so tacit but then you get used to saying, "OK, the lights are about to change, I'm looking two cars down, I've just seen that they've done this and I'm making this decision."

There's something in that about being an advanced practitioner generally - that you can name what it is you're doing. Talking aloud is just one of the ways it can become more alive to you that you are making decisions. That creativity is about decision making.

Niki: In teaching at an undergrad level, that feels like the last piece of the puzzle. That tends to be where so much of the uncertainty and fear of making the wrong decision kicks in. It's one of the most formative things; if you can learn good design decision-making at an early enough stage in your education to be able to practice it while you're at university in a learning environment where you have access to all the different intellectual stimulation.

That approach of speaking out loud what you're doing as you're doing it could be an interesting provocation for students. Sit in pairs and actively do some designing and talk about what it is that you're doing at every step of the way, as if the other person can't see what you're doing. You have to give them a verbal monologue - like real life 'alt text'.

Laura: Precisely. In conversations with students, particularly in Graphic Design, there's still too much focus on how it looks. I try to avoid that. I always get them to talk me through it, tell me how it works, tell me why it works like that, ask them what their intention was with their different choices. There's usually a point where they've lost sight of their own decisions. That's where the learning is. For me, at least, that's the work.

Niki: And the finish, taste and style becomes very particular in a collaboration - you can't necessarily know how something will look and be finished because you're collaborating on it. There might be one person who has a technical skill that will allow it to be finished in a particular way, there might be a few people that have that technical skill that might come together and do it collaboratively.

In MA Global Collaborative Design Practice, we're working with systemic interventions where we're trying to come up with different kinds of approaches that don't always require a visual finesse at an early stage. We're encouraging people to be less careful about how it looks and more careful about what it does or what else it would make possible if it came into reality. You might kill an idea at an early stage, so I don't want people to invest a lot of time making it look pretty.

If we start to look at the ontological consequences of that design coming into being and recognise that what it could make possible is incredibly dangerous or unethical or irresponsible, that idea will not go any further. So, we don't invest time in making it look nice. We keep it scrappy and low fidelity. It's interesting to put style to the side, and how interesting it is when different design educators and practitioners come into the space and want to engage with how it looks.

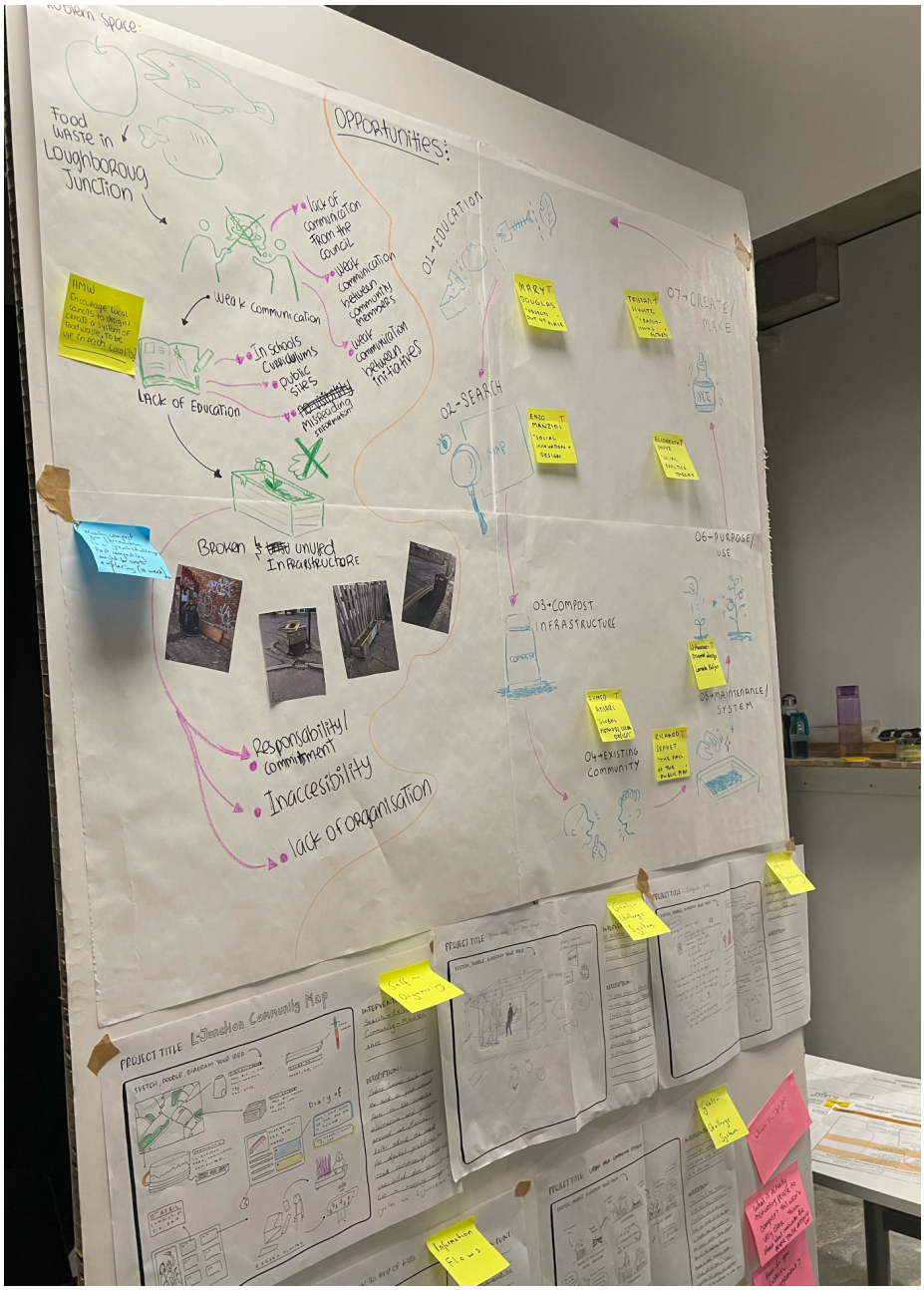

Fig. 10 Image of low fidelity prototyping from MA Global Collaborative Design students (2023)

Laura: Design practices can have this difficult, intertwined relationship with the notions of hygiene. I think often, when people hear "design," they think ‘neat’ and ‘clean.’ On MA Communicating Complexity the challenge is that we don't really have the visual languages for working with complexity in an authentic way, yet. Most of what we do have — these traditional visual forms and formats — have simplification hardwired into them as a standard. There’s entirely new visual forms and literacies that will need to be built if we're going move beyond simple event-based understandings of the world (Meadows, 2008). This presents a lot of challenges to ‘taste’ and ‘style.’ You have to work with content in a very authentic way. The visual form emerges from the content. It can’t always be imposed. When you're dealing with emergence, interrelated elements, different types of data, which might also be vastly distributed across time and space, it’s not going to be neat and tidy, and you shouldn't be trying to neaten it. It's really about the minimum viable intervention that makes it a piece of communication.

Niki: If it's messy, it's more realistic. It's more representative of what it is, which is complex. If it's neat, it's simplified. Does it then lose its ability to be complex? Are we then reinforcing the whole "reduce it down to simplify so that we can communicate or so that we can solve the problem"? There's something interesting in that smoothing out process.

I wondered whether we need more of a capacity building process, so we learn to sit in the discomfort of the mess and complexity. I wonder if that might build some capacity to engage with things even when they’re represented in different ways.

Fig. 11 Mess and process to final prototype, MA Global Collaborative Design Practice Student Work, 2021

Laura: That is relevant to how things get done in design education because we can sometimes have a bit of PDF problem. A presentation problem. Formats that necessitate linear logics - progressing through one thing at a time, stage by stage. Regardless of whether that's how the student experienced that process at all, it's like that double diamond logic in full effect. We've got to think creatively about assessment formats going forward, ways of creating

authentic documentation and representation of how things happen. If you've always been trained in neatness, in shuffling things into a nicely presented format, that's when you say you're going to design a specific format before you've even started the project. You've immediately constrained the process.

I had a student last year who challenged this brilliantly. They could submit a PDF of up to 30 pages. They submitted a one-page PDF and the page was A0. They said, *"I experienced all these things as related in really interesting ways, and that's what I want to show."*

Niki: You mentioned experience there - something interesting happens when the things that are being designed are no longer things (lowercase t) but become Things (capital T) (Björgvinsson et al., 2012). That something might not have a design form, that it might be experiential, that it might be a practice, that it might be something we don't see or recognise as a design outcome in the way that we've historically understood design outcomes.

This poses different kinds of challenges - how do I present this? How do you show that the experience was successful? How do you present something like that in PDF format so that you can put it through Turnitin? It becomes like these extremes of showing all the mapping, all the detailed research that was trying to understand all the interdependencies in the problem space, and then here are all these photographs of the things that we did with people and how they experienced it.

We're trying to find these different ways that we can capture what the work is to prove that something was done that meets learning objectives and marking criteria. But my students are often presenting work that doesn't fit into traditional academic structures. We work in collaborative groups - every project is a collaborative project. When you look at the marking criteria, everyone asks how do we assess this for individual grades?

We had to really start to think about the learning outcomes and how we allow students to demonstrate those within the context of the group and individually. How do we evidence them in an individual PDF submission but also in a group presentation? How do we acknowledge that some work needs to have the same grade and other parts of it has a different grade? It's a tricky thing to balance.

There's a lot of very careful conversations with students around them revealing their process along the way. Show us your Miro space, show us how you're mapping so that when you tell a more discrete story about it in this PDF, we have something to connect it back to. We meet in those groups so that we can see how the dynamics of a group are shaping, and that really helps us to understand how students have used prototyping as a language, how students have dealt with the relational aspects of group work, how they've dealt with power dynamics and how they've tackled other emergent aspect within their process.

We try and keep it very transparent, but this very transparent Thing sits in what is otherwise quite an opaque system, a structured opaque system with impenetrable walls between the different categories. I think that makes it additionally challenging when we start to think about how design programmes strategically promote collaboration.

Laura: There are two things in this for me, and they relate to how design programmes strategically promote collaboration. The first thing is we must be able to model collaboration. Not teamwork, but collaboration. If we're still stuck in an *'independent genius designer model'* that is going to be hard. But the two words that keep coming up for me are facilitation and documentation.

I think facilitation has got to be a focus for design education. What's been facilitated? How has it been facilitated? What methods enabled that facilitation? And then documentation, which we have discussed. How do we authentically document design practices and processes with a specific focus on the emergent properties of them?

Niki: When I talk about what design is or design as different kinds of things with the MA Global students, we have this kind of start point where design is a kind of infrastructuring (Karasti, 2014). You're thinking about who are you convening, what kinds of tools and technologies, what kinds of people and spaces, what's the context? How do you bring all of these things together, and how do you scaffold your project with some of those relationships and decisions that you're making?

Then there's design as assemblaging - you've got your toolkit filled with different approaches you've practiced along the way, and you need to respond to the context by assembling the right blend of all the different ways of being, working, thinking, and doing.

Then there's design as intermediation - working across those different boundaries and thinking about who and how will people come together, what kinds of shared understandings will we have, how will we build consensus and bring different knowledges from different spaces.

Hella Hernberg (2022) talks about this idea of architects as intermediators. It comes to life when you think about an architect in that sense. You're mediating between a space and then all of the different permissions around that space in terms of community, occupants, planning permissions, local authorities, regulators. Then you've got the people that you need to move between in order to realise the space.

Design is organising, facilitation, and a learning process. When we're coming together to collaborate, we're learning about each other and about what the 'thing/Thing' is we intend to do together. That doesn't just happen at the beginning when we're doing the desk research to learn about the thing we're going to design. It happens the whole way through. You learn by osmosis, by doing, by being around people who think differently, who respond differently and behave differently. All of that is learning.

So, design suddenly becomes much more than what we define design as when we start to think about all of those different aspects. That's particularly evident in collaborations for systems work, transitions, and systemic interventions. But I can see how valuable these things are even in a simpler kind of collaborative engagement, because these are also the things that keep everything running smoothly.

Laura: The idea of the infrastructure there is super interesting. I am thinking about the infrastructures of Design. There are all these layers across years of embodied standards and practices and ways of thinking about things that you're brining with you. Along with your own personal, cultural and social infrastructure. The ability to interrogate that, to break it down and really see it - we bring all those structures, disciplinary and personal to our collaborations, so do our collaborators.

Niki: The other thing that's missing there is time. I think it takes more time than we give it. I remember having these conversations with designers during my PhD and then two years later I went back and re-interviewed five of them for a book. It really gave me a sense of how things had shifted for them.

They would say things like "that client that I was having that conversation with, it took two years, but eventually that became this kind of systemic intervention." Someone else mentioned "I started to form this relationship with this person, and then two years later, we were able to do this project together." There's something about that 2-year time frame - perhaps that's just me being a pattern seeker, but it was interesting to hear repeatedly, that it takes a good amount of time to build relationships, to build trust, and to learn. Two years feels like a good time frame for that.

Laura: That's definitely my experience professionally. Students often ask me all the how to 'get a job.' I say start soon, take your time and focus on having really meaningful discussions with the types of people that you want to work with in the future.

Niki: John Forester (2013) calls these 'participatory rituals'. He uses that same kind of approach in planning when they're looking at how to build consensus in a community for something different to happen in that community space. It is about having the quick coffees, and slow dinners, or going for a beer or a walk with someone.

I saw that happen in the Food Futures project in my living lab in Australia. So much of the work was exactly that, participatory rituals. Someone might say that's not work, you're just having coffees and beers and walking through fields with farmers and hiding from snakes while you talk about soil. And yes, I appreciate that doesn't always sound like work, but it is. Every single one of those moments brought us one step closer to doing something together. Without these relational moments, the project would not have gained any momentum.

Laura: And that's incredibly hard to build in increasingly transactional spaces. I think about students mired in debt, gaming their timetable, figuring out what the minimum viable attendance is so they can earn their rent. We must reflect on the story we tell ourselves about where the 'work' is. Because 'the work' involves all these other things. There's so much hidden work and labour.

Niki: Especially in collaborations and especially when those collaborations are crossing over fields and sectors and there's an expectation that you'll do something together, then the work happens much earlier. It's unfair to call it pre-

work because it starts to suggest that it's not part of the work, and that to me feels like a similar kind of subjugation to soft skills. They're not soft skills - they're smart skills because if you don't have them, the project doesn't happen.

If they're core, you can't subjugate them and make them seem less than in relation to the other kinds of skills. It's making me think about how I've written about Infrastructuring and intermediation and assemblaging as kind of preliminary work before a project starts. I should probably go back to that piece of writing and reframe that because it doesn't do justice to what that work involves — it's high energy work and it is hard work. I think particularly in cultures that are less relational because we're not used to it. In an individualistic culture like what we have in the UK, that kind of relationality is not a natural way of engaging with people.

Laura: In my own research, I keep mulling on this focus on delivery over development. We're so focused on outcomes and the things that get delivered, but how do things develop and how are they supported to develop? It can't just be about what someone managed to achieve within terrible constraints.

Niki: Yeah, it's the whole process over outcome conversation again, isn't it? Where does our focus lie?

Laura: It's got to be about the ecosystem that enables [unexpected] things to emerge.

Niki: It's so interesting when I think about the differences in how we need to think about design in the context of collaboration compared to how we think about design in other settings. That collaboration piece is so crucial to so much of the work that needs to be done. How we realise things like circular economies, how we realize large transnational energy transitions - all of these particular kinds of things that involve multiple sectors, multiple cultures, many people coming together with a shared purpose. If we're not developing those relationships now, if we're not starting to plan for and build for futures that make that kind of work possible, then things are only going to get harder the longer we leave it. There's something kind of existential in how necessary that skill set is.

Laura: I think it goes back to methods and practices and articulations of them. They're not clear enough and we're still stuck in moment with design - it's either highly practical or it's mystical.

Niki: Ammon (2018) talks about the fallacy of the genius sketch - a napkin sketch gets held up like a genius "aha" moment but completely ignores the thousands of hours of work underpinning it. We've got to stop doing that.

Laura: Yes. We need to get much better at articulating the things that we're doing. Then we can start to generate a kind of language, a pattern of things, a pattern of interplays. Something where we can say "in that context, these things were deployed in these ways with these impacts..." I feel like that's the work that we must do next. We can't afford to hide behind the 'creative genius' myth anymore.

It's not about saying "this is the design process." It's not - it shouldn't be about generalisability in the traditional sense, it should be precisely the opposite. There are a million ways to get to different points. But we can describe most of them quite well. Better than we think we can.

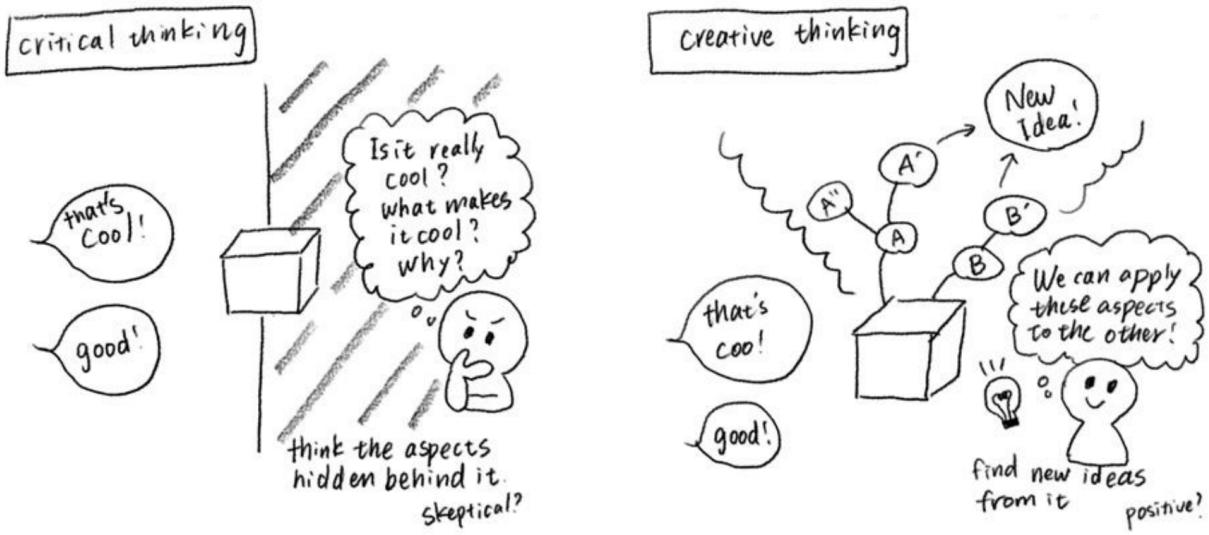

Fig 12. Critical vs Creative taken from Knight and Ramejkis (2022)

Niki: Yes, good descriptions. This is the design process for right now for this project, with our current understanding of the conditions that we're working in, and that is subject to change because this is a living project. I think that fixed-ness and specificity might come from educational briefs, because they are often very intentionally specific. It predetermines your understanding of the problem and the solution, and in doing so, provides so much structure that should you veer away from the brief and respond to anything else that happens in your process, you're penalised because you didn't respond to the brief, you went off-course.

What we're teaching in MA Global Collaborative Design Practice is the opposite of that. The brief is alive, and you respond to the living brief because it will constantly reveal and unfold new and interesting things to you that you then need to consider how you fold the insights back in. That might change where you're going, and you're allowed to do that. You should be doing that because you're responding then to your new knowledge that is constantly building and evolving throughout a process of engagement with many people - people with different knowledge and expertise and lived experience of the problem space. So, it would be terrible to think that you would start out, speak to all these people, learn all this new stuff and still think of the brief in the exact same way.

Laura: On MA Communicating Complexity, one of the things that keeps coming back from students is the lack of references. I'm asking you to do this thing and I can't necessarily show you how it's been done before. Let's say it doesn't exist - let's make it. And let's make it as close to our understanding of the problem as possible right now, contingent on the idea that it might only work for this one thing. There's a kind of bravery in that. Sometimes that I think education doesn't set students up for very well for that and it's a thing we are going to need to move past.

Niki: I was always the mean lecturer in my undergrad teaching who wouldn't show you how the previous students did the same project. I would say to them - the second I show you how someone else did it, it influences how you will do it. So rather than looking to what everyone else has done, think about how you would approach this set of problems, this set of conditions using the things you know about. Because this is about your response, it's not about what someone else did. Then after six or seven weeks when everyone's got a more formed idea of what they're doing and they're nearing the finish line, okay, now you can see what other people did, but look at how much more interesting your ideas are because they're your ideas. They weren't influenced by what this person did or what this person did.

Laura: Because I haven't offered you a template for a solution. I do a very similar thing. My one exception is writing, and in writing, I specifically give them a range of things that are all completely different. It's a way of signposting that it's the choice that you make - you just need to own it. I'm quite averse to references otherwise – they're not always helpful. In fact, they can guide in unhelpful ways sometimes.

Niki: I think it's important, particularly in the spaces that our masters situate in. If we're constantly looking at what's been done before, we're not necessarily responding to the problem with different thinking. We're therefore

reinforcing the problems that we're seeing in that problem space rather than coming up with new and different ways of approaching them and intervening in them. So, it's dangerous in some respects to look at what else has been done.

In the complex problem spaces, we tackle in MA Global the problem space has shifted within three months of you finishing the map that you just made. So, you can't necessarily look at what other people have done to intervene in this problem space and think it will be appropriate for you to pick that up. But having said that, we do look out at what is being/has been done to understand the eco-system of action, so it's not an entirely blind process. And this year there are some projects that I'm trying to look at in an intergenerational kind of way to consider how one cohort of students might pick up projects in a problem space and then brief the next cohort of students in how they've worked with a partner, so that those students can advance the work that was done. So rather than being accidentally influenced by previous students' work they actively and strategically develop it. How do you hand over a project so that it has longevity so that it's interconnected across multiple cohorts? We haven't fully realized that yet but we're working on it this year.

Laura: We experimented with that a little bit on the Graduate Diploma. The term Sprint is used so often now in design, we know what that is. Then there's these 'final major projects' that feel like marathons. I was like, okay, what does a relay project look like? We wrote a series of projects that could go backwards and forwards between different disciplinary cohorts. So, students were always picking up where the others had left off and their job was to take it forward. It was quite an interesting approach that we could probably do more with.

Niki: There's something interesting about what it means to hand over. How do you communicate succinctly and clearly with all the detail that's needed? How do you hand over a project to someone else? Design yourself out of it but leave space for them to design themselves into it - there's something quite particular about that exchange of knowledge and ideas.

Laura: It's all in that articulation, isn't it? There's a skill in facilitating that hand over.

Niki: Yeah, it'll be interesting to see how that goes this year. Watch this space!

Discussion

Through our conversation, several key insights emerged about the methods and practices that we believe effectively intertwine disciplines, cultures and communities in design education. While many of the larger concepts and ideas we discuss are already active in the design education discourse, our discussion focussed on our practical experiences of applying these ideas in the studio and attempts to capture some of the emergent outcomes of this.

Firstly, we suggest that 'relational communication practices' should form the foundation for meaningful collaboration. This idea is explored both explicitly and implicitly in literature that recognises shared understanding development as vital for multidisciplinary and distributed design work, where designers often function as intermediaries (Clarkson et al., 2021; Hella Hernberg., 2022; Mougenot & Nguyen, 2022). Through our conversation we explore how these play out in practice, how they shape visual processes and inform praxis, particularly for emerging interdisciplinary designers. We suggest that making these practices explicit - teaching them as core competencies rather than implicit skills - is important in helping students develop more intentional collaborative approaches.

Second, and relatedly, these visual making practices serve as crucial bridges for connection. Visual communication practices bring stories and data to life and can mediate inter-cultural communication. When used in this way, visual communication can provide broad entry points for many people to see and experience systems and complexity. Activities like sketching, mapping, and prototyping provide ways to move us beyond the 'napkin sketch' (Ammon, 2018), forcing us to slow down, reflect, and build shared understanding (see Fig. 1). While it is understood that visual methods can structure and facilitate forms of conversation (Veer et al., 2013), we have seen how these methods can also bring different ways of knowing and thinking into the room, especially among multi-cultural and multi-disciplinary cohorts. They do this by creating shared languages. In our experiences, visual practices can transcend verbal and written communication barriers, allowing students to engage with complexity through visual sense-making and synthesis (such as the multilingual map). Therefore, we suggest that visual methods can support processes of translation across ontological and epistemological divides by making the assumptions and methods underpinning disciplinary thinking and doing more visible to all.

Third, building reflexive learning environments requires careful attention to pace, space, and support structures. Creating safe-brave spaces for engagement, managing time for reflection, and supporting student decision-making helps develop practitioners who can adapt methods to specific contents rather than apply fixed solutions (Barnett, 2004) that emphasise simple, linear, event-based understandings of the world (Meadows, 2008). This connects to the broader goal of teaching for complexity and uncertainty - moving beyond standardisation and disciplinary defaults to embrace emergence and build capacity for working with discomfort.

Insights for future practice

To summarise, for design programs seeking to promote collaboration and cross-pollination of ideas, the conversation suggests several strategic approaches:

- Make relational practices explicit in curriculum
- Center visual and making-based methods in ways that support trans-disciplinary practices
- Create structured spaces and time for reflection and emergence
- Build capacity for adaptation, rather than just applying methods
- Value process and learning over polished outcomes

Above all, the discussion reveals that preparing students for complex, collaborative practice requires moving beyond teaching fixed design processes and responding to pre-determined briefs, to developing flexible practitioners who can navigate uncertainty through relational, visual, and reflexive approaches. Observing how and where communication design skills can transcend discipline to become applicable beyond creative practices, in more complex and systemic spaces is a growth and development space for future proofing practice.

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