In Dialogue:
A Conversation About Multimodal Learning in Tertiary Design Education

Susan Jowsey
Auckland University of Technology

Rachel Carley
Auckland University of Technology

Susan Hedges
Auckland University of Technology

Nooroa Tapuni
Auckland University of Technology

This paper presents a conversation between four tertiary lecturers reflecting on how creative discoveries are afforded in the curriculum through a diverse range of peer-to-peer learning activities, coupled with online platforms. They discuss how digital outputs form an autoethnographic trace or sensory sketch manifest through video, blogs and visual posts. Examining the ways mixed approaches establish relentless energy, sparking connections between digital and analogue making. Considering how diverse methods create meaningful linkages between conceptual, formal and technical modes of design discovery. Adopting a toing and froing strategy to praxis, they explore opportunities for learning and teaching.

Keywords: multimodal learning, design education, sensory autoethnography, social media

INTRODUCTION

This paper is a conversation amongst four lecturers whose practices intersect through teaching. Two of the four originate from a background in Spatial Design studio teaching, Rachel Carley and Susan Hedges, while Nooroa Tapuni has a Visual Arts and Digital Media history, Susan Jowsey's background is in Visual Arts, Digital and Communication Design. Together they reflect on their ongoing collaboration around learning and teaching praxis. As tertiary educators, they seek to construct and implement pedagogical frameworks that facilitate meaningful linkages between conceptual, formal and technical modes of design discovery. These discoveries are afforded through a diverse range of peer-to-peer learning activities occurring in class, coupled with multimodal online platforms including video, blogs and visual posts to build (academic) capacity in undergraduate and postgraduate student cohorts.

A CONVERSATION

Susan Hedges: (SH). I want to talk about making static lines, traces and shadows move through the use of technology, and the recording of that movement as a proposition for understanding space.

The drawing is without a stop. I mean to say the true drawing, the living one – because there are dead ones, drawn dead's. Look, and you shall see. Barely traced – the true drawing escapes. Rends the limit. Snorts. Like the world, which is only a perennial movement, the drawing goes along befuddled and staggering, with a natural drunkenness. (Cixous, 2005, p. 27)

Rachel Carley: (RC). A restless, mobile patterning, isn't that what sunlight does to form, do you mean shadow play?

Susan Jowsey: (SJ). It brings to mind historical optical devices such as the Phenakistiscope and notions of remediating media (Bolter and Grusin, 1999, Parikka, 2011).

Nooroa Tapuni: (NT). In turn, is it static, static in a stillness that is restless?

SH: Do you remember that drawing paper that tested the notion that drawing is not a predetermined calculation but an accumulative, approximate process? I asked students to run a continuous interference moving their drawings in a sort of relentless action between the digital and the analogue. The shift was aimed at attempting to break the edges of the page, to animate a two-dimensional surface, incrementally moving the drawn, never letting the drawing rest.

RC: Like the agitation spurned through the moiré effect where pattern and light collaborate to make surfaces appear to pulsate. Students might also test the possibilities using short films to interrogate how light impacts surface treatments using physical models.

SJ: Surely the relentless nature of the toing and froing would produce a lot of glitches and errors, were they incorporated or excised?

SH: Errors and trials are valuable learning, over time, approximations and hesitations increased. The act of passing from one state to another and instances of alteration revealed movement, and interferences were found. The drawn reached a state of detachment, simultaneously inside and outside in opposition to a surface that may be passive, flat and unengaged. "...in the next to nothing of a line that hesitates, that breaks off, ...searching, destroying, starting over – living is absolute in those few lines were sometimes all but obliterated by his erasures..." (Bonnefoy & Naughton, 1994, p.13) Each shift is seen as an elaboration and refinement of the previous.

RC: Was the aim to develop skills in analogue to digital to analogue to digital transformation?

SH: Yes, it was an investigation of how running interference affects the design practice; the analogue to digital and back again process provides methods of working iteratively across a range of media and enables students to develop techniques for transferring ideas.

RC: The issue is how to show or create the kind of movement that occurs before the representation of stable objects and introduce a new, dynamic conception of both image and spatial practice. It raises the question, what is an image? What does it mean to understand an image in terms of a space that is prior to representation? To view drawing as the not yet built, as shifting ground.

SH: I agree, but you also have to remember that objects and drawings are not necessarily stable, they can change, undergo variations, providing new possibilities of seeing. These 'zones of indetermination' create unexpected movements. Images involve whatever transpires in the intervals or disparities between things. They are connected through a logic where the whole isn't a given but is always open to variation, as new things are added or new relations made, creating new continuity out of such intervals or disparities. Architectural theorist Andrew Benjamin writes in The Preliminary: Notes on the Force of Drawing, that "The virtue of experimentation thought beyond the strictures set in place by representation is that it demands that lines have a potentiality whose actualisation then continues to be maintained as a question" (Benjamin, 2016, p. 471).

FIGURE 1
ANIMATED DRAWING
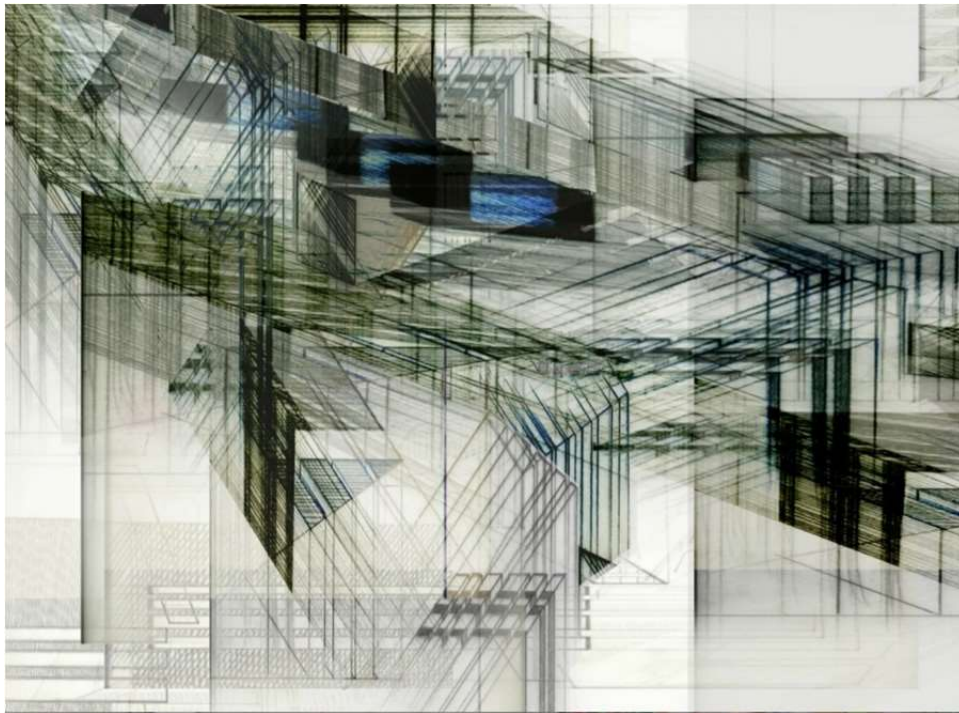
Hedges, S. (2013). *Screen captures from animated drawings.*

SJ: That brings us back to the idea of the optical, the volatile nature of the movement. These animated drawings emerge and can be situated between potentiality and indetermination. The static two-dimensional image of proposed space shifts becoming an animate, choreographed surface. The short animations made by the students evoked possible fictions. Narratives about human forms performing in time and space, the line activated the surface, creating visual phenomena.

RC: The potentiality of process and movement. The creation of space and surface extends the unfolding of time, suggesting three-dimensional activation. Shifts in scale, movement, overlaying and repetition provided a view that does not necessarily give clues to construction but hint at possible spatial experiences. Like pseudo impossible objects, visual phenomena where the 3-dimensional space is unresolved, the image creates a perceptual dilemma, the moving drawing suggests steps, then walls, and then steps again - creating a strangely evocative space. We tried to engage students with a similar design exercise where they physically modelled and recorded (through photographic and moving images) a series of experiments into colour and surface treatments in the context of apartment design. To interrogate how colour could work operationally to expand, contract and distort a priori spatial relationships.

FIGURE 2
EXPLORING COLOUR IN CONTEXT USING PHYSICAL MODELLING
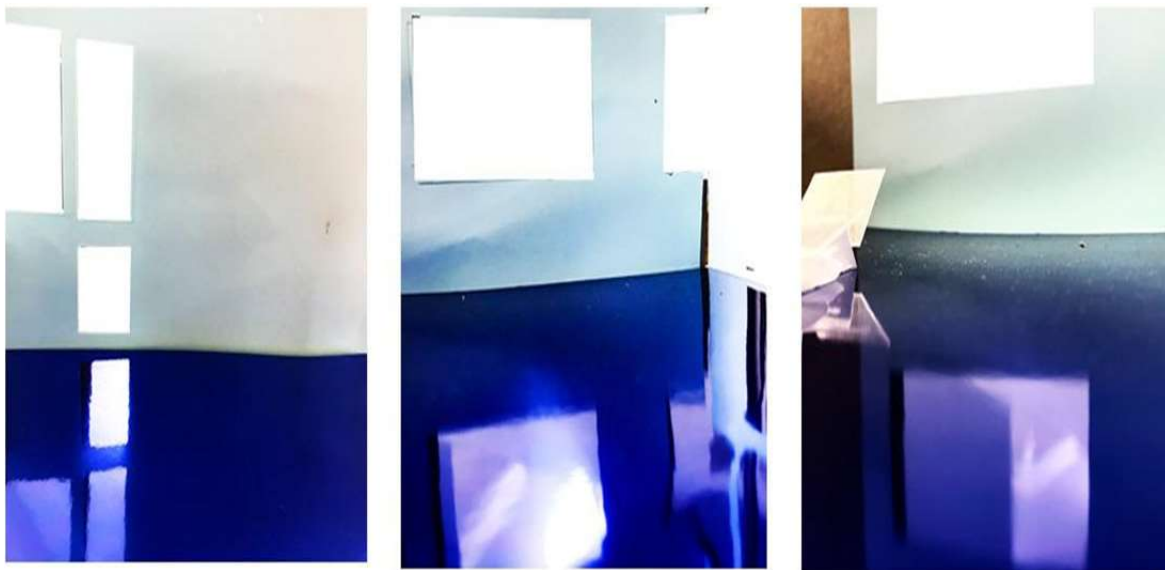
Almaas Nabi, S. (2017). *Exploring colour in context using physical modelling.* Produced for Colour Complex Spatial Design Studio, Auckland University of Technology University. https://sa-nabi.tumblr.com

SH: Hmmm, yes, it certainly subverts their clear understanding, but it also creates a readable set of fragments. Students begin with the usual tools of construction, pencil, ruler, set square and compass and end with an axonometric; these are then combined in an animation. The viewer is thrown into the proposed space and participates in the offered environment. The animated drawings continuously introduce evolving spatial narratives.

NT: Is sound linked to this incremental process? How do the students capture the sounds of drawing, can they make an aural recording of their drawing process? What is a drawing that makes a sound?

SH: Do you mean does the line also groan or mutter, can it bellow, does it call out or is it silent like a shadow? Or do you mean a visual audio relationship like Roger Shepard's acoustic illusion? (Shepard, 1964). A harmonic staircase? An architectural soundscape, we didn't explore that aspect, but I can recognise the potential of exploring those ideas in relation to the drawn.

SJ: It brings to mind The World Soundscape Project set up by R.M. Schafer during the 1960's, they produced The Handbook For Acoustic Ecology (1978). Yes, some of the animated drawings reference spectrograms, and the notion of psychoacoustics where the auditory system can pick up the transmission of sound waves as they are reflected by or absorbed into environmental spaces, linking conceptually to the choreographed visual phenomena of moving lines. A potential sensory ethnography (Pink, 2015), as a way to connect thinking about design to sensory perceptions; the moving lines of the drawing become embodied spatiality?

RC: From a pedagogical perspective, do you think that adopting a sensory ethnographic approach would enable design students to document their practice with greater reflective depth? (Laughter)

SJ: I think it's essential to establish that as a design educator I don't have an in depth understanding of ethnographic practices. However, as a creative producer and educator, I consider reflection and practice as simultaneous actions. There is a curriculum expectation that students studying postgraduate design will be consciously thinking about how meaning is conceived and articulated within their work. As well as being able to consider the constructed nature of that meaning critically, that reflection is active and outward, as opposed to inward looking. That's not to say that a self-reflexive process, Reflection-in-Action (Schön 1987) cannot be a catalyst in the design process, more that students need to be wary of slipping into narcissism.

NT: Well, students could slip into the pursuit of pleasure through the reflection of their attributes. However, if I, is considered We, perhaps the slip of self-adoration would be bypassed. Refiti (2008) discusses the body as gene archaeological matter, that does not belong to the individual but to the ancestor, to land and to "the community that [has] shaped and cared for you"(Refiti, 2008, p.124). Through this lens, the interconnected body is one of multiplicity and subject to the methodological tool of whakapapa for knowledge creation. That is wisdom through the layering of knowledge, over time, and adapted to generational needs (Mikaere, 2011). In a way, action, and reflection in action, to design and to reflect on the design, is a looking, towards seeing the accumulative knowledge of the gene archaeological past, in the action of the present. This notion of the gene archaeological past could be reframed in the art and design context to support pedagogy. Art and design 'histories' could be considered bodies of knowledge that thread through the students creating a continuum of practice, the students 'tu'i' (draw) to, and from, this interconnected position.

SH: Yes, when I ask students to reflect on their making, I expect that they will seek to do more than simply reflect on the choices/decisions and outcomes made during the process. Framing the potential of reflection as a critical tool enables students to examine their research through varying approaches. Each student will bring their narrative and intertwine it with the stories that exist in the world around them, stories that belong in academia but also beyond, reaching into the realm of the personal. As you say, through a genealogical knowing, a knowing often evidenced (unspoken) through practice.

SJ: Looking back to look forward would enable students to consider and weigh the spectrum of influences informing their practice. It supports iterative making, which values a nuanced understanding of consequences, Reflecting-on-Action. (Schön, 1991). However, it is also essential to see the design process as more than reflective knowing. We tend to privilege this aspect of the process in postgraduate study. Where does the

intuitive moment fit? The spontaneous, knowing through the hand. The moments that cannot be effectively described, when questioning why you decide on that course of action? Such questions usually elicit answers like, "I don't know" or "it felt right." Schön assumes that "competent practitioners usually know more than they can say" (Schön, 1983, p. 8). "…illustrating the classical, generally applicable difference between "knowing how" and "knowing that." (Ryle, 1949/1973, quoted by Visser, 2006, p.88) However, it is more than knowing *how* or *that*, both privilege the mind, doesn't the whole body know?

RC: If the reflection is considered a requirement of the epistemology of reflective practice (Kinsella, 2007) then embodied or tacit knowledge (Polyani, 1966) becomes a critical aspect of the discussion. How, as an educator, do you guide students toward discussing decisions based on tacit knowledge, especially if they are unsure about the origin of that embodied knowledge?

NT: Perhaps here, we, as educators, are offered the opportunity to reconsider or reframe the unknown? To acknowledge that 'knowing' also exists as 'duration' (Bergson, 1911), as genealogy and as intuition. That this form of knowledge offers creative potential rather than unstable ground. Embodied knowledge could be considered through Polyani's (1966) notion of 'indwelling' where experience is explicated through dwelling in a thing. Here meaning becomes known as it is interiorized and then used to interpret experience. In the studio, this could be translated in the process of iteration, continual mark or form-making as active embodied gestures of dwelling, dwelling in the thing. Meaning for the student comes to the fore through making. Perhaps this supports a pedagogy of practice, where concepts are arrived at.

SJ: Sometimes it is easy to identify behaviours associated with professional knowledge but other times explanations are vague and untethered. A contextual conversation that situates knowledge provides a foundation for understanding one's work within a broader milieu. Though it does not necessarily address embodied knowledge, it may supply useful anchors. Adopting a multimodal or a (multi)sensorial approach associated with Sensory Ethnography (Pink, 2011) provides a contingent exploration of meaning. Since the rise of vlogging, one could argue that the notion of a documentary video has entered the expanded field and that this creates considerable opportunities for communicating in a (multi)sensorial manner about one's practice.

SJ: Recently a student submitted a video documentary of practice, rather than giving a class presentation. This option was open to everyone, and in varying manifestations students opted to diarize their practice using video or screen capture software. The difference between this student's submission and many of these other documentary forms was that she didn't attempt to diarize her practice. It was not a record of what she had done; she was not trying to show her skills or abilities with materials or media - it was not didactic in any form. The video documentation created by this design student aimed to illustrate her haptic exploration and contextual exploration as separate embodied narratives. Situating the camera above her head height, the viewer shared her visual field; we saw what she saw, in a purely visual way, the video silently captured the details of her hands exploring materials.

SH: Was there any running commentary or diaristic notation to explain what you were seeing?

SJ: No, not specifically, the imagery explored a spatial narrative, movements of the hand lifting, sorting, arranging objects and squares of colour, it wasn't choreographed for the camera. At least not in the way the moving drawings were consciously responded to via the notion of animation, instead it was a sharing of the rhythm inherent in her making practice, it was an exploration of her bodies intuitive knowledge.

I suggest that the anthropology of 'being with' can be likened to the idea of ethnography as a practice that seeks routes to understanding the experiences and meanings of other people's lives through different variations of being with and doing things with them (Pink, 2011, p. 11).

This focus on the making hands emphasises her thinking body, navigating through the unknown territory of creating something from the disparate objects and colours before her. Seeking a visual coherence that may never come, the discarded artefacts and constant searching would not typically be documented as it is a fast reordering. Texture, colour, line, shapes are caught for a moment then transposed, existing only as light touching the eye. She has recorded the actions of '"The knowing hand," which has "exquisite knowledge of the size, shape, surface, texture, density… etc. of the object it manipulates."' (Tallis 2004, quoted by Pink, et al., 2015, p. 240).

RC: Laura Marks in her book, The skin of the film: Intercultural cinema, embodiment, and the senses, discuss her notion of *haptic vision* referring to the eye's ability to register tactile perception, "…the eyes themselves function like organs of touch' (Marks, 2000, quoted in Pink, et al., 2015, p. 243).

SJ: Yes, the student is a textile designer, she is showing us her aesthetic process, we are entering her private making space. It is not the same as standing near her observing her. To do this, I would need to read the broader context. I would inevitably ask questions, which would disrupt the process and introduce random ideas (everyone laughs).

RC: You would not be a witness to her explorative process, she would be subject to your need to understand. I suppose students who attempt to diarize their process are caught in this dilemma. I tend to find that the video diary method is often led by trying to explain, rather than capture ideas that might randomly occur. I haven't had a student hand me a video diary of a failure per se; it's usually the edited highlights, the performed moment - visual diaries do tend toward the establishment of visual and oral commentary, generally ordered by sequence.

NT: Would you say then, that the autoethnographic approach to videoing the tangible and intangible practices of making expose it as an embodied rather than didactic process?

SJ: Yes, possibly. What interested me about this video documentary was that the student had scripted a completely different text; the recorded narrative was then laid over the silent documentary of her process. Creating a disjuncture - I sense her hands constantly reordering, searching for an intuitive response, something she is unable to give voice to. While she talks, the unfolding narrative gently segues from a personal story to a theoretically situated series of undulating questions interspersed with conversational musings. As she moves across the narrative landscape, the visual imagery becomes less and less readable, immersion in the act of making takes precedence. The camera moving from head height to handheld - we are intimately introduced to the texture, colour and viscosity of the inks as she smears them across the table. All the while, she is talking to us about the nature of the materials and their eventual demise - her obsession with

plastics made from petrochemicals - but before us, we see these vivid colours and hard edges. She rolls the inks smearing them; however, what emerges from this visual chaos is a pattern, much like the moving drawings switch from chaos to order and back again.

RC: Nooroa and I engaged digital media in our second-year spatial design studio, we wanted students to consider the following questions about colour and context.
Where is the colour in spatial practice, both locally and internationally?
How do designers discuss and activate colour in design representation and full-scale form?
How can colour alter perception?
What is the relationship between colour and light?
How can care and concern for colour be embedded in conceptual design practices?
What historical and contemporary discourses and debates have occurred concerning colour and spatial practices (interior design and architecture) and how are these debates translated into a local context?
What are the social, cultural and political implications of colour (or a lack of it) within our built environments?

NT: The students were strongly encouraged to draw in and draw out colour: to leach, overcoat, prime, gloss over, impress, lacquer, layer. Acknowledging that colour is more than a *superficial* surface, a frippery too readily (and erroneously) located in the realm of the decorative. We aimed to position it within the sensory. Sure, colour needs to be colourful; however, for it to be colourful is has to be full of interest, lively and exciting, visually and perceptively provocative. The design studio exercises were constructed to actively promote Schön's notions of reflection-in-action and reflection-on-action. Knowledge about colour was gained in context, through the generation of iterative models framed by a series of productive material constraints. Additionally, group seminars shed light on histories and theories of polychromy in art and design contexts. We also aimed to build each student's capacity to frame their design ideas in writing. This aim was supported by in-class peer-to-peer review on the student's written statements about their design intent. This served to create linkages between primary and secondary research materials and their responses to their research through iterative, creative practices.

RC: In addition to this we had another aim, which was to implement a range of peer-to-peer learning activities and to use multimodal online platforms, including blogs and Instagram, to build (academic) capacity. Blogs were employed as an interactive, shared medium that promoted peer to peer reflection upon reflection-on-action: where students could evaluate and compare responses to set class exercises in an open-source digital platform in real-time over the semester.

SH: Much like moving imagery allows us to witness or captures embodied experience, mobile interfaces frame an array of social transactions.

NT: The studio was structured so that each week students were asked to address a particular design problem and then assess and evaluate their own (and others) design outcomes in relation to the set task. The blog became a journal that regularly mapped out and critically reflected upon the design journey from the perspective of the individual learner. In doing this, it provided substantive evidence of the importance of the iterative process.

SH: Would you say the evidence was choreographed, like the moving drawings?

NT: Not so much choreographed. Though I think you could say that about the images produced for Instagram. We required them to curate photographic documentation as part of their critical reflection on their design practice, that reflection also had to be documented through writing. Though they could have used spoken word, such as in Textile Design example. The blogging platform they used supports sound and video widgets.

RC: We did instructed them to use written words though, mainly to build this as a skill set. These were undergraduate students, they were engaging widely in a variety of digital media, blogging, photography and moving images. Though if someone made an autoethnographic video and embedded it we would have supported that approach. Upon reflection, we think we'd promote this as an alternate approach in the future. Blogs enabled the student to share videos they had made testing the impact of natural and artificial lighting on the bespoke interior surfaces they had constructed: wallpapers, textiles, and tiles. These videos captured sensory aspects of their design enquiry. One student produced a wallpaper informed by research into Anish Kapoor's use of colour. The wallpaper was produced with thermal imaging paper so that when warmed by the sun's rays or steam generated naturally in the space, the black satin finish slowly revealed a series of small-scale blood-red dots.

FIGURE 3
DETAIL OF WALLPAPER DESIGN FOR A BATHROOM
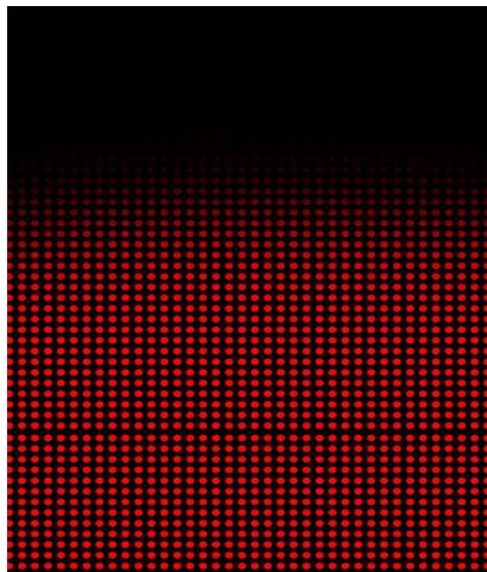
Ahn, J. H. (2017). *Detail of Wallpaper design for a bathroom. The wallpaper informed by research into the work of Anish Kapoor was produced using thermal imaging paper so that when the matte black surface heated up a series of red dots emerged from the darkness of the substrate.* Produced for Colour Complex Spatial Design Studio, Auckland University of Technology University.

SJ: Colour certainly lends itself to a sensory ethnographic dialogue. Thinking back to that series of questions you opened with, "How can colour alter perception?" provides a searching entrée into an embodied experience. It's the same type of toing and froing set

up by the moving drawing, and the corresponding optical/aural discussions, you could also ask, "What does colour sound and feel like?"

RC: Yes, at the time we were focused on how to create the conditions for 'inter- and intra-personal conversation' (Pachler, Bachmair, & Cook, 2010). Consequently, we are interested in the extent to which mobile devices and services foster inter- and intra-personal conversation-based processes of coming to know and being able to operate in, and across, new and ever-changing contexts and learning spaces at the interface of formal education and everyday lifeworlds. (Bannan, et al., 2016, pp. 939-940)

SH: But they aren't mutually exclusive, sensory autoethnography is also addressing the inter and intra-space of communication, don't you think? Ethnography is characterised by its descriptions of individual and group customs or more broadly culture. This capturing can also be visual, using photography or video, not just a written word. Digital media provides a contingent learning space capable of facilitating a wide array of pedagogical imperatives. (general agreement)

RC: Yes, I agree. I think Mark's idea of 'haptic vision' was evidenced in the artefacts produced in the Colour Complex studio paper. Because we gave weight and emphasis to the interrogation of surfaces and finishes, students set about putting the surface to work to make surfaces tactile, deep, and most importantly, idiosyncratic. Moving between analogue and digital technologies enabled them to reclaim their projects from the 'default settings' found in digital material libraries, instead they experimented with the possibilities offered by bespoke, hand-crafted surfaces to elicit sensory responses. As evidenced in a number of the projects.

FIGURE 4
STUDY IN COLOUR, FORM AND SURFACE

Gibbs, L. (2017). *Study in colour, form and surface treatment informed by research on the painter Giorgio Morandi (1890-1964) for Colour Complex Spatial Design Studio.* Auckland University of Technology University.

CONCLUSION

There isn't a discrete end to this conversation; it repeats, gets disrupted and advances, a nexus of trial and reflection. Digital media offers more than a tool for documenting action, it twines around and through the heart of design practice. Learning and teaching is no longer (some lament) a pseudo-objective space for the depositing of knowledge, a quantum transfer of data. Technology has entered, unbidden, into the messy expanse of practice-based learning. As practitioners and teachers we welcome the digital because it ushers in often unacknowledged opportunities for embodied reflection and attendant uncertainty. Templated outputs produce normative responses that are easy to grade and report on, yet they frequently fail to reveal the toing and froing of understanding. The rational and non-rational are manifest as equal through the performative interstices of making and thinking. In this contingent space, learning and teaching oscillate between the tangible and intangible. Technology allows a critique of the bounded, hierarchical nature that has become 'knowing how,' facilitating ways of 'knowing through.'

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