P/REFERENCES OF DESIGN

MICROBRIEFS: USING DESIGN SPRINTS IN PRACTICE-BASED EDUCATION.

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ABSTRACT | This paper introduces an educational approach implemented within the Design Products MA programme of the Royal College of Art in London UK, focusing on enabling students to develop their personal practice around their values, concerns, and materialities. The approach integrates Kolb's experiential learning theory, design sprints, and the community of practice framework to foster hands-on problem-solving within set time frames, encourage collaboration, and facilitate reflective discussions. The 'Experimental Design' unit, building on the 'Locating Practice' unit, aims to broaden students' horizons through consecutive 'Microbriefs,' emphasizing trial and error to expand creative bandwidth and explore various design practices, materials, and technologies. The six Microbriefs undertaken during the curriculum explore themes such as self-portraiture, spatial design, communication, error, traditional meaning-making, and ethics in design.

1. Introduction

This paper presents the educational approach developed in the context Design Products MA programme of the Royal College of Art s a practice-based master's programme that focuses on enabling students to build their personal practice around their values, matters of concern and materialities.

In Design Products we view products as influential leverage points encompassing not only tangible goods but also services and systems, extending beyond the final outcomes to encompass the entirety of the design process and the territories it instigates (Meadows, 1999). Within this framework, we advocate for a more pluralistic approach to design, wherein products (outcomes) of the design process serve as a gateway to uncharted territories, with the objective of advancing new disciplines, research methodologies, and practices.

The nomenclature of the Design Products MA program at the Royall College of Art originates from the fundamental belief that "design is more important than the product." This position deliberately challenges the traditional boundaries of design as a discipline, propelling it into unconventional spaces. The focus of the programme is on shaping, redefining, and promoting best practices within sustainable parameters, openly articulated.

Unconstrained by traditional manufacturing norms, our approach encompasses a spectrum of possibilities, including the exploration of new intellectual property models, systemic transformations, integration of digital technologies, design for repair, stimulation of new behaviours, and the continual scrutiny of our responses to climate change. Rather than conforming to established typologies, we view design as a versatile tool for provocation, future envisioning, research facilitation, contextualization, and the redefinition of design industries, transcending the mere production of artefacts. Fundamental to our inquiry is the question, "What constitutes a product?" as we challenge assumptions and seek to uncover critical insights that inform cutting-edge creative practices, aimed at designing more sustainable and impactful futures.

The programme rests on two central tenets, first is values-based design education and the second is practice based learning. This leads to the creation of a programme that aims to facilitate the exploration and emergence of a design practice that is rooted in the learner's value system, matters of concern, materials and production methods.

Values-based design education integrates a pluralistic educational model by embracing project-based learning and creating creative environments for design practice (Thoring et al., 2018). This approach aligns with the idea of integrating pluralistic educational models, as it allows for diverse perspectives and experiences to be incorporated into the learning process. Additionally, the work emphasises the significance of values-led participatory design, providing insights into how values can be incorporated into the co-design process, reflecting a pluriversal approach to design education (Noel, 2022) and decolonising design education (Ansari et al 2019; Turnstal 2023; Adibrata et al 2023) movements. By drawing from these perspectives, we aim to acknowledge and embrace diverse values, cultural perspectives, and participatory approaches within the design process. This integration not only enriches the educational experience but also prepares students to engage with the complexities of real-world design challenges, where multiculturality, interdisciplinarity and diverse values are inherent.

The 'Experimental Design' unit, building on the 'Locating Practice' unit, fosters exploration and experimentation with various practices, materials, and technologies. Through consecutive 'Microbriefs,' it aims to broaden students' horizons and leverage contemporary design approaches, emphasising trial and error to expand creative bandwidth. This unit extends students' capabilities in designing interventions and explores a practice-based approach to design as experimentation. Each Microbrief starts with a thematic provocation that puts forward a one-to-two-week design project, inspired by the notion of design sprints. These projects serve as lenses for collective reflection on emerging practices, fostering dialogue, creating a community of practice within the studio. Microbriefs drive fast experimentation, strategically testing concepts

across various mediums to offer diverse proofs of concepts and design directions. The experimental proposals are free to explore mediums including: physical (including performative), digital, material, technology, computational and biological techniques to create proposals for a product, artefact, probe or intervention.

2. Practice-Based Design Pedagogy

2.1 Design Studio

The design studio is a fundamental component of practice-based design pedagogy, serving as a space for experiential learning, creative exploration, and collaborative engagement. In the context of design education, the studio environment plays a pivotal role in shaping students' understanding of design processes, problem-solving, and critical thinking. This section will explore the significance of the design studio in practice-based design education, drawing insights from relevant literature to elucidate its role in fostering experiential learning and creative development.

The studio serves as a space where students actively engage in hands-on, project-based work, allowing them to integrate theoretical knowledge with practical application and through reflection feedback to the theoretical and methodological models around design. This learning by doing environment is essential for students to acquire design skills and knowledge under the guidance of tutors.

The design studio aligns with Kolb's experiential learning theory. According to Anderson & Dron (2011), the design studio environment facilitates instructional designs and interventions that promote active experimentation and knowledge application. This resonates with Schon's concept of the "reflective practitioner," where students engage in reflective conversations with peers and instructors to critically examine their design processes and outcomes (ibid). The studio's immersive nature allows students to integrate theoretical knowledge with practical application, fostering a deeper understanding of design principles and methodologies (Saghafi, 2020).

The weekly pattern of Microbriefs creates a sense of ebb and flow in the studio with the space filling up with materials and works revolving around the theme of the week. The very presence in the space takes on an experiential significance as the space acts like a halfway point between workshop and exhibition space. Furthermore, the design studio serves as the basis for a community of practice, where peer-based learning and collaborative interactions play a significant role in knowledge construction and skill development. Iranmanesh & Onur (2022) emphasise the design studio as the core of practice-based pedagogy, highlighting its role in nurturing a collaborative and supportive learning environment. Moreover, the design studio's pedagogical significance extends to its role in fostering originality, creativity, and critical thinking. Saghafi (2020) underscores the studio as a space where knowledge gained from various subjects is integrated, promoting interdisciplinary thinking and innovative design solutions. This aligns with Schon's emphasis on "artistry, invention, and discovery" within the reflective practice framework, where students are encouraged to explore creative solutions and challenge conventional design norms.

The design studio stands as a cornerstone of practice-based design pedagogy, providing a fertile ground for experiential learning, collaborative engagement, and creative development. By integrating theoretical knowledge with practical application, fostering a community of practice, and nurturing originality and creativity, the design studio plays a pivotal role in shaping the next generation of designers. Creating a studio culture that fosters peer-to-peer learning and critical reflection is essential for design education. According to Lee (2009), project-based learning can serve as a vehicle for learning in design education. This approach allows students to engage in hands-on projects, promoting collaboration and knowledge sharing among peers. Additionally, Thoring et al. (2018) emphasise the significance of creative environments in design education. By establishing diverse creative spaces, students can be exposed to different contexts and stimuli, which can enhance their critical thinking and creativity. These findings suggest that incorporating project-based learning and providing diverse creative spaces can contribute to the development of a studio culture that encourages peer-to-peer learning and critical reflection.

In order to cultivate peer-to-peer learning within the studio culture, it is important to recognize the unique aspects of design learning processes. Caban and Wilson (2002) and Jones (2006) argue that the design learning processes, particularly in terms of creativity, possess substantial uniqueness. Acknowledging and embracing this temperament of design education can help in tailoring the studio culture to effectively support peer-to-peer learning. Furthermore, Thoring et al. (2018) highlight the significance of context in creative environments for design education. By creating diverse and stimulating contexts within the studio, students can engage in critical reflection and draw inspiration from their surroundings, thereby enhancing their learning experience. Therefore, by integrating the understanding of unique design learning processes and providing diverse contextual environments, a studio culture can be cultivated to promote peer-to-peer learning and critical reflection. In order to facilitate the emergence of such a culture we decided to integrate a series of design sprints, Microbriefs, in the second term of the programme. In the following section the characteristics of these sprints will be presented and connect to our educational goals.

2.2 Design Sprints as an Educational Unit

Design sprints have gained popularity as an educational approach that promotes faster iteration, experimentation, and prototyping, fostering a dynamic and collaborative learning environment. This section aims to explore the application of design sprints in education, drawing insights from relevant literature to elucidate their impact on pedagogy, student engagement, and learning outcomes.

Design sprints have gained traction in educational settings as a method to facilitate rapid problem-solving, idea generation, and prototype development (Kruger et al., 2023; Winfield et al., 2022). The implementation of design sprints in industrial design education has demonstrated the potential to cultivate discipline and rigour in the design process, preparing students for real-world challenges (Thomas & Strickfaden, 2018). This aligns with the iterative nature of design sprints, where students engage in time-constrained activities to address complex problems and develop innovative solutions (Thomas & Shin, 2016). Sprints provide students with hands-on experience in navigating ambiguity, making decisions under constraints, and collaborating effectively within multidisciplinary teams.

Design sprints can support students in becoming confident in conditions of uncertainty. By creating an uncertain space which demands a quick, deft response, by stimulating students with knowledge that is potentially transformative but also inevitably very partial, the students are exercising de-facto being in the liminal space. This is exercising elements of pedagogy within the setting of the students' own making - making them not only better designers but mostly better learners.

Furthermore, the integration of design sprints in educational contexts has been shown to enhance student engagement and motivation. The resolution of a project within a short period of time offers students a unique and intensive learning experience. This intensive format encourages active participation, creativity, and critical thinking, fostering a sense of ownership and accomplishment among students (Sanglier et al., 2021). Additionally, the studio environment supports the collaborative nature of design sprints, promoting peer learning, as students work together to ideate, prototype, and iterate, aligning with the principles of cooperative learning and knowledge construction.

Kolb's experiential learning theory posits that learning is a continuous process involving concrete experience, reflective observation, abstract conceptualization, and active experimentation Kolb & Kolb (2012). Design sprints, as a time-constrained and structured approach, provide students with opportunities to engage in hands-on, experiential learning that resonates with Kolb's learning cycle.

Kolb's learning cycle and design sprints intertwine seamlessly to enhance learning experiences. In the first stage, students engage in hands-on problem-solving during design sprints, mirroring Kolb's concrete experience phase. Reflective observation, the second stage, occurs as participants analyse feedback and refine their designs iteratively. This mirrors Kolb's emphasis on critical reflection. In the third stage, abstract conceptualization, students synthesise their reflections to refine their designs, aligning with Kolb's notion of forming concepts based on experience. Finally, in active experimentation, participants apply their

refined designs, akin to Kolb's idea of applying conceptualizations in new situations. Design sprints, with their rapid cycles, foster active participation, peer learning, and skill development in design education, complementing Kolb's framework effectively.

In conclusion, design education is heavily based on human models of learning and design sprints add to that the capacity to go through multiple cycles within a short time, creating cycles within cycles. Design sprints thus enable better design education by promoting active participation, situated learning, the creation of learning communities, rapid iteration, and technological enhancement. These mechanisms contribute to a transformative and experiential learning environment, fostering peer-to-peer learning and skill development within the context of design education.

In summary, each of the design sprints undertaken during Unit 2 of the programme needs to be seen as a distinct learning cycle. By providing students with an array of different opportunities for concrete experience, reflective observation, abstract conceptualization, and active experimentation. The final pillar of the educational approach developed for this unit was the need to create conditions in the studio that fostered the emergence of a community of practice in the studio.

2.3 Community of Design Practice

The community of practice framework provides a social learning environment, in our case the design studio, where individuals can engage in reflective discussions, share experiences, and collectively develop a deeper understanding of design principles and practices (Joyce et al., 2015). In the next section we are presenting four characteristics of communities of practice that we feel are integral to our educational approach

Active Participation and Learning by Doing: Rogoff et al. Rogoff et al. (2003) discuss how people learn by actively observing and "listening-in" on ongoing activities as they participate in shared endeavours. The studio provides students with hands-on, experiential learning opportunities, allowing them to actively engage in problem-solving, idea generation, and prototype development within a time-constrained framework (Sanglier et al., 2021).

Situated Learning and Legitimate Peripheral Participation: Lave and Wenger (1994) emphasise the concept of situated learning and legitimate peripheral participation, which is integral to organic entanglements happening within the studio. Students participate in shared endeavours and gradually increase their involvement in the design process, thereby fostering peer-to-peer learning and knowledge construction through their everyday participation in studio life.

Creation of Learning Communities: Marshalsey and Sclater (2020) discuss the creation and support of learning communities in the era of distributed studio education. Studio acts as a platform for creating collaborative learning communities, where students work together to address design challenges and share their insights and expertise, thereby fostering peer-to-peer learning.

Technological Enhancement and Pedagogical Change: Crowther (2013) discusses the opportunities for technological enhancement of the design studio pedagogy. Implementing design sprints in design education can leverage technological tools and platforms to enhance the learning experience, providing students with innovative and immersive learning environments.

The space of the studio in design education, emphasises the physical environment as a facilitator of community building and collaborative learning. The informal communication and social engagement in the design studio, creates an environment that fosters peer-to-peer learning and collaborative interactions. (Corazzo 2019) These are integral parts of a community of practice. The centrality of the studio in design education, underscores the role of the community of practice where teacher-student communication and collaborative learning take place. The key ways the design studio fosters peer-to-peer learning are multifaceted and encompass various dimensions of pedagogy and collaborative engagement. (Goldschmidt et al. 2010)

Mewburn's (2011) empirical research examines how the theory of reflective practice (Schon 1987) is applied within the design studio. This study underscores the tutor's role as a coach, assisting students in conforming to disciplinary norms and cultivating a 'designer's mindset' to facilitate peer-to-peer learning. This relationship has underlying issues related to power and representation in community-based design. This includes the establishment of trust and negotiation of intricate power dynamics, both pivotal components in fostering peer-to-peer learning (Schiffer 2020). Fostering peer-to-peer situated learning by doing, as a reflective practice while addressing issues of power and representation is, in conclusion, the goal that the studio needs to achieve. The design studio serves as a vibrant and transformative space for collaborative engagement and peer-to-peer learning in the context of design education.

2.4 Conclusions

The design studio serves as a cornerstone of practice-based design pedagogy, providing a space for experiential learning, collaborative engagement, and creative development. By integrating theoretical knowledge with practical application, fostering a community of practice, and nurturing originality and creativity, the design studio plays a pivotal role in practice-based design education. We set out to create a studio culture that fosters peer-to-peer learning and critical reflection through the development of a series of design sprints. Project-based learning and diverse creative spaces contribute to the development of a studio culture that encourages peer-to-peer learning and critical reflection. Furthermore, recognizing the unique aspects of design learning processes and providing diverse contextual environments can cultivate a studio culture that promotes peer-to-peer learning and critical reflection. Integrating design sprints into the educational approach can enhance the capacity for multiple cycles of experiential learning within a short time, contributing to a transformative and experiential learning environment in design education. The emergence of a community of practice within the design studio further supports peer-to-peer learning, collaborative engagement, and the development of a vibrant and transformative space for design education. In the next section we will be presenting the different Microbriefs run during unit 2.

3. Microbriefs

Microbriefs aim to form a foundation to a variety of practices by allowing them space and subjects to develop around. They aim to be diverse enough to act as a collection of lenses that allow every student to find a focal point that is suitable for them. The diversity of student projects necessitates such a flexible educational approach. In the broader context of the trajectory of students on the course, the Experimental Design and MB briefs are intended to allow students to explore the bigger matters of concern they are interested in by focusing on different key aspects of practice weekly.

Towards the end of the unit the students also produce additional output which is not guided by a brief and is responding to their major subject of exploration more specifically. By this point the students are able to approach the process of questioning and responding as "another Microbrief"

Some key defining characteristics make a 'good' Microbrief:

- Relevant to creative practices so to allow interpretation within a more confined definition of Design. These titles cover elements of routine practice in design;
- Relevant and legible in a broader human / cultural / societal context as to allow a very low threshold of engagement. It needs to mean something for EVERYONE no matter how early a stage they are in. (legitimate peripheral participation).

The title WAHTSO: (we're not here to save the world) We Are Here To Save Ourselves - positioning the experimental design as an ex-territory with its own set of rules, independent of the agenda, ethos and curriculum of the college. There is a message by design here, that experimentation must be accommodated

regardless of the consequences. Such ethos is losing ground in a reality where design has to assume a responsible role and quite literally save the world.

The unit ‘Experimental Design’ aims to challenge and deschool some of the models the students have been formed by through their industrial design education. This is done by truly committing to a spirit of experimentation. This involves embracing failures and exercising the analysis of the action (as opposed to the outcome) to extract positives from all produced work. To foster this experimental spirit, individual briefs are not marked and the assessment is done by examining learnings achieved over the entire course of the unit. For the students this means that putting in the labour guarantees success. This aligns with Richard Sennett in The Craftsman (2008) where he suggests that potentially EVERYONE has talent.

This is an important message to be receiving as a student, when one is in the process of turning raw talent into applicable practice, moreso when the briefs are actively taking apart previous methodological structures on which the students rely.

In this section a brief presentation of the area of focus of each Microbrief is presented followed by some conclusions on how they achieve the goals set.

3.1 Making Faces

This brief uses practices of Self Portraiture and self-reflection to create an introduction to a person and a backdrop to frame subsequent work in the studio.

It follows from the first unit of the year: "Locating Practice" where the students produce a (mostly written) manifesto to launch them into a year of work. The self-portrait is an invitation to use other media and techniques, to bring their values to the forefront and to assume other positions as practitioners than those suggested in their previous education.

The brief itself asks the students to create a self-portrait. This is positioning a very accessible threshold for engagement. The human form is a classic subject, explored by all creative disciplines since the dawn of man and the face (and by extension the human form) is a readily available thing to be responding to.

Know thyself.
Understanding one's perspectives, positions and biases is key to being able to respond clearly to external stimulations. Articulating something about oneself is a way of calibrating one's tools of observation and critical response.

Being the first brief in a newly formed community of practice, this is an opportunity for students to introduce themselves to their peers through materials, techniques, storytelling etc. This enhances the sense of community and invigorates the social interactions, building scaffolding for peer learning.

We believe and endorse the notion that Design is a creative practice, not only a service or a job description. As such, the creative author is never absent from the work - in their creative input, their biases, attitudes. This is an opportunity to explicitly explore the role that designers see for themselves in their practice, placing their own (often physical) self-centre stage. Furthermore, this legitimises the personal perspective as a 'portal' through which to be reflecting on the world.

3.2 Scratching Both Walls, on Space and Spatial Design

This Microbrief invites students to respond to - and on the scale of - spaces of significance. Expanding from reflection on one's physical self, this Microbrief takes the students one notch up in scale and asks them to be considering and responding to spaces and the way our physical selves interact with them.

We recognise similar practices and processes operate across a scale of physical dimensions; be it jewellery, furniture making, architecture etc. but often students tend to suffer from the 'cat size' syndrome - producing things that are on a small, contained scale whose existence is often confined to the studio.

Working on a large scale creates conditions / obstructions that are beneficial in a number of ways: Technically, it is more difficult to skim over undecided details. Being large means all design decisions are more visible, making them more obvious subject for discussion.

Responding to a certain particular space forces the students out of the studio, out of their physical comfort zone and into a space that will inevitably contain other factors as well. This is forcing the students to open up to the world.

Borrowing its title from the work of Artist Rebecca Horn "scratching both walls at once" (1974-5) the brief carries the notion that the physical person of the artist and the space - any space - in which it is placed hold the tension and potential to create work around (shifting the emphasis from finding the most 'unique' location to the actual act of engagement with space).

The brief asks students to consider spaces as: physical objects, places, holders of stories, containers of human lives and activities, building blocks of larger human environments and cultures. To respond to spaces, students need to practise the language of space and architecture: solids and permeables, passageways and walls, technical details and objects.

3.3 Mechanism

This brief builds on the notion that design in the broadest sense of the term is a set of intentional actions done for a purpose, to produce an effect. This distils the practice to understanding all manners of mechanisms which tie cause and effect, action and reaction.

The brief asks the students to identify a mechanism and respond to it, exploring the very definition of what a mechanism is in various iterations and contexts. References presented in the briefing include physical mechanisms, principles and devices (like producing sound from textured surface as demonstrated by Yuri Suzuki's works based on vinyl records and the works of Jeroen Diepenmaat who is 'playing' the surface of the streets with a large-scale phonograph cone) and also less precise concepts like 'reflection' (as explored by Daniel Rozin's mirrors). This introduces the notion that effects take place as a result of a constellation of factors and the practice of design involves the ability to observe and identify this interconnectedness, to understand the factors involved and the potential of utilising them. The idea of mechanism extends also to terms which are less technical; like 'empathy' (exploring how to evoke a sense of empathy even with inanimate objects) or 'instructions' (explicitly guiding someone to take certain actions: assembling flat pack furniture or playing a music score).

The work produced by the students for this brief typically emphasises control: controlling the conditions and variables in a situation to produce a predictable outcome, a predictable process of action and result. This is always a challenge on both conceptual and production levels: framing work in terms of control inevitably leads many students to describe their output as 'success' or 'failure' which can be detrimental to the process and the experimental attitude. The following brief in the series takes off from this point.

3.4 A Catalogue of Errors (Brief by Sophie Clements)

This builds on very similar brief work done by Sophie Clements with students in other programs / schools in the Design Products and outside it.

This brief is about control, lack of control, accidents and serendipity.

One of the foundations of the Experimental Design unit is to support the students in developing confidence in conditions of uncertainty (the liminal space). This is key to creating resilient learners in the studio but is also precisely relevant to professional design practice.

Where ‘Mechanism' sees students creating contrived mechanisms with a clear intention of controlling the outcomes, ' A Catalogue of Errors' asks them to practise the creation of conditions which will deliberately yield an uncontrolled outcome which nonetheless is the result of these unique conditions. Here lies the distinction between 'random interference' and just 'making a mess'. The element of control is ever present in the creative process. To borrow from the artist Andy Goldsworthy: "total control can be the death of a work". In 'Mechanism', there is a binary line separating success from failure. The students create a mechanism that's meant to deliver an effect and if it doesn't then the experiment is deemed 'failed' or at the least 'not working' - which the students can be too conscious of. With 'A Catalogue of Errors', the process taking place is very similar but the emphasis is shifted to the richness of the set up and the space allowed for things to go wrong. The line between success and failure is then explored not by calculated tentative means of feeling but by racing across and beyond it.
On a practical note, working with such methods as Dadaist poems offers useful techniques to get past what Richard Serra called "the indecision of beginnings". These align well with techniques for boosting creativity such as IDEO Method Cards as well as the arbitrary character of design sprints.

3.5 "Μύθος" (Myth)

Myth is a brief that acts as an exploration of traditional ways of meaning making, ritual and embodiment in the design of artefacts. The brief asks students to Pick a time and place in history and examine how their positionality aligns with the system of values of that era. After selecting a civilization that echoes their values students were asked to "Create a found speculative ritualistic thing, describe its role within a ritual (existing or imagined) and narrate the myth around the rituals. This brief is grounded on work developed by Bofylatos (2020) in developing artefacts to explore how the material culture developed by prehistoric civilisations embodied notions of their human experience (Bofylatos 2022).

This Microbrief aimed to inform students practices about notions of embodied movement in the context of rituals (Grimes 2012), speculative pasts, values driven design for sustainability (Walker 2017) and how other ways of knowing can be integrated into contemporary practices (Latour & Porter 2010). The past, in this case, was used to challenge the cultural hegemony of modernity and enable a more pluriversal perspective of value systems. The way the language of myths speak about facets of our shared human experience was leveraged to point to examples of narratives developed collectively to guide people both in practical and ethical behaviours (Levi-Strauss 1955; Campbel 2008). The value of storytelling in design was an important aspect this Microbrief aimed to distil to the emergent practices of our cohort.

3.6 Resist / Complicity

Resist / Complicity carries with it an explicit agenda that places design practice within a broader context of politics, values and ethics. Acknowledging that in the current climate design very often must choose a side - to resist or be complicit - and be informed and conscious of the consequences.

The brief asks the students to find something worth resisting and resist it through design, or else, self-consciously assume the role of the complicit and "design like nothing is sacred".

This is a call for students to explore the broader contexts of things and phenomena, to identify flaws, wrongs, misuse of power or distortion of justice, to seek leverage points and respond in a designerly fashion. This is also a platform to put their moral position and attitude front stage, an invitation to flex their muscles of resistance, to practise the firm belief that being observant and critical is a citizen's duty. Designing then is quite forcefully extracted from its comfortable space of 'form giving' and placed bare naked as an act of civic responsibility and moral duty.

This is the last of the microbriefs in the unit, delivered when the students are at their most confident, having engaged the sprint model 5 times already. They are at this point ready to make a statement of intentions that will echo throughout the remaining terms of creative work.

4. Conclusion and Reflections

In this concluding section we discuss some of the key principles that emerged when this unit was run. These principles are grounded on the authors' reflections on the process, context and work produced with the students in the studio. These conclusions are informed by discussions with colleagues and students and the overall embeddedness of studio life.

The medium is the message:
The Microbriefs are curated. The selection of the titles and the choice to deliver inspiration from a very broad field of references is indeed taking a position. This position reflects an ethos about the role of design, of designers, of citizens, of practices of critique and more. Microbriefs are a tool, a tool to deliver ideology. We believe that there cannot, there ought not be design education (pedagogy) that is without ideology. Values are the basis of ideology and given the nature of practice-based education, knowing your values - and ideology by extension - is a prerequisite to develop a meaningful design practice.

The choice to bring inspiration from farther afield than just design work (mostly Art) is conscious. This is to deliver content that has not been processed through familiar methodologies of design. Art tends to respond to similar components that you'd find in design methodology but most notably it does not have to meet standards associated with design practice (user, costing, market etc.). At the same time, it is explicitly driven by clear ideologies, taking positions and working with materials and mediums in a conscious, calculated and skilful manner.

Each brief is presented with a collection of references that embody the values that the brief is exploring and they are being 'unpacked' to demonstrate their relevance in context, technique, attitude etc. The students are explicitly invited to begin their process of exploration through mimicry to set their creative process in motion. This builds on a process of "virtual apprenticeship" used by Author 1 in work with students, exploring copying as scaffolding for the development of new projects and practices.

Creating unexpected connections between referred items help highlight the presence of certain principles (titles) to be observed in the world. The same happens upon reviewing the many dozens of outputs, all responding to the same brief title.

Microbriefs are much about articulation of intention. This is delivered in the briefings too. At times, the same references will be used for different briefs with the emphasis and interpretation being different every time. This aspect of the pedagogical delivery is inspired by the apprenticeship models and their capacity to facilitate embodied learning (Downey et al. 2014), with the briefing sessions providing examples of how observations and insights could be articulated, discussed and argued about.

Faster. More often. Repeat:
All the elements mentioned above are acknowledged and familiar and applied in design education in its modern form since the days of Bauhaus school (Finedeli 2001). Microbriefs build on this but dial it 'to 11'. The impact is achieved both by turning the designers' gaze inwards, to their own process and by accelerating and repeating the process over and over again.

Repetition creates habit, conditioning, method, practice. In later units, when students are asked to: "think of it as a Microbrief" this becomes a reflexive methodology that has been iteratively developed. It becomes a form of work that delivers results. In a sense the Microbriefs invite students to shift form 'workmanship of certainty", where the exercises done are characterised by uniformity and predictability in outcomes, and the "craftsmanship of risk," (Pye,1978) where the outcome is uncertain and influenced by the interaction

between the material and the craftsman's skill. In the craftsmanship of certainty, the focus is on achieving standardised results and developing technique, while in the craftsmanship of risk, there is an acceptance of variability and an embrace of the creative potential within the process.

The multitude of iterations at hand forces learners to go through six repetitions of Kolb's learning cycle. The sprints are stressful and the confined time frame can prevent meaningful ideas. So we're doing multiple sprints but at the same time giving students time to reflect and for the new knowledge to 'ferment' between weeks. Also, the outputs of each Microbrief are not marked individually but in the end of the unit as a singular body of work. Secondly, we prioritise the process and not the results - (this is where transparent pedagogy is important so students can understand what they are a part of) - the result of the sprint is "know thyself", from the brief: "articulate your attitude to design and start to form an individual language" as such the material outputs are seen more as an anchor of learning, a means not an end,

Generalist approach to specialism:
The breadth of inspiration and freedom to respond in any medium are conducive of a generalist approach to design. It is established that design is effective as a mediator between stakeholders and experts, termed the 'science of the particular' (Buchanan 1992), and this requires agility and ability to be inspired and respond using multiple mediums. Going back to the central tenet of the Values-based design pluralistic education model adopted by the programme, the need to create a space where a multitude of diverse practices can emerge and flourish takes this need for flexibility further. Microbriefs need to be a tool for the divergence of ideas creating new creative pathways. Microbriefs need to be effective lenses, distorting existing perspectives in unexpected ways. By reflecting on the body of work produced students will be able to integrate these perspectives in their practice.

Work individually within a community of practice:
All students are responding to the same brief yet the responses are completely different. One of the central goals for this educational unit was to trigger the emergence of a community of, design, practice in the studio space the programme occupies. Active Participation and Learning by Doing, Situated Learning and Legitimate Peripheral Participation, Creation of Learning Communities, Technological Enhancement and Pedagogical Change were identified as the main drivers in fostering such communities. The development and undertaking of unit 2 aimed to address all these principles. The students had to create material provocations for each Microbrief forcing them to learn by producing design work. The tutors pushed students to inhabit their studio space not only during tutorials and lectures but during their autonomous learning, events were organised, both led by students and staff to create clusters of dialogue around specific matters of concern. The use of IT and innovative ways of making to extend the physical space of the studio to the digital realm was also leveraged to expand the scope of the studio beyond its walls. This included different platforms that were used to share resources, events and engage in dialogue.

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