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Illuminating themes and narratives in studio through expert elicitation and collaborative autoethnography

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Abstract: The studio remains central to design education as a shared place, practice and even concept. And yet studio persists as an ill-defined entity: a complex puzzle composed of thousands of diverse jigsaw parts constructed by teachers and students, with no definitive list of parts. Given this background, it was opportune to review the landscape of studio, both in terms of research and practice. In 2020, this study brought together an invited collective of design educators from the USA, Australia, UK, Sweden, Spain, Iran, and Germany, experienced in the research and operation of design studios in education to explore these issues. Expert elicitation, conducted over several months illuminated the critical values, questions, and themes of studio to foreground and inform future research studies in this field. The authors approached this study through the lens of thematic analysis and collaborative autoethnography. Later, they determined their own subjective narratives as they reflected on the themes relevant to their individual studio research interests. These narratives briefly examined studio through the lens of sensory affect and the inclusiveness of the design studio. The emergent themes from this study have implications for both studio research and practice: identifying a plurality of the boundaries of studio today.

Keywords: studio; studio learning; plurality of studio; design; collaborative autoethnography; expert elicitation

1. Introduction

> The reader looking here for a template or guidebook on studio teaching will be disappointed by intent. There is no single, generalizable set of guidelines that we can, or want to, offer. (Boling and Schwier, 2016, p. 20)

In 2020, the *Studio Matters* community was formed from an invited collective of design educators experienced in the research and operation of design studios in education. The *Studio Matters* community was initially formed by three design studio education colleagues from Australia and the UK. They then brought together a wider studio community by using a non-probability sampling technique where participants were recruited from among their acquaintances and extended networks. For the first time, an array of studio research experts

was assembled from the UK, USA, Australia, Portugal, Sweden, Iran, and Germany to explore the questions, issues, challenges, themes, and properties of studio from diverse global perspectives. From July 2020 until February 2021, twelve studio research experts voiced and shared their insights from this specialised field of study, combining their extensive experiences and knowledge of studio. Under the banner of *Studio Matters*, a combined series of short Spotlight discussions and longer Conversations illuminated the critical lenses of design studio education to foreground and inform a mutual contribution to the field of studio-based research. However, it should be noted this *Studio Matters* community is not globally representative of all researchers in this field of study and not all networked connections were exhausted. Additionally, the time commitments of some studio research experts meant they withdrew from participating with the *Studio Matters* community during this process.

The aim of this paper is to illuminate the themes that arose in these expert discussions on the studio from diverse perspectives and viewpoints. The objective of this approach was to generate a large data set of themes, from which 1) the *Studio Matters* research community could come together to explore and disseminate as a collective moving forward into a variety of outputs, 2) for individual *Studio Matters* researchers to identify overlap of their preferred themes with other experts, fostering productive partnerships and smaller teams, effectively combining research interests. Instead of giving an exhaustive account of all the themes that emerged, the paper focuses on a summary of the central themes emerging from the studio expert elicitation sessions (the shorter Spotlight discussions and the longer Conversations). Later, this paper examines two subjective narratives, from the perspectives of the authors of this paper, who participated in the sessions as they reflected on the themes relevant to their own individual studio research interests. These narratives briefly examined studio through the lens of the sensory affect and the inclusiveness of the design studio.

2. Literature

Historically, studies have explored numerous studio-based themes: what a studio consists of, in terms of space, curriculum, time, resources, pedagogy and attempted to examine studio's definitions, concepts, ideas and overlaps (Schön, 1987; Cuff, 1992; Shulman, 2005; Salama, 2017). More recent research outlines the necessity of contradictions and ambiguity (Orr and Shreeve, 2018; Boling and Schwier, 2016) or exploring studio as a socio-complex and praxis (Farïas and Wilkie, 2016; McDonald and Michela, 2019). In a post-pandemic age, many studies have explored the challenges faced by design education and studio-based pedagogy, confronting the challenge of facilitating the transfer of learning between divergent contexts (Smith, 2020; Boling et al., 2020; Marshalsey and Sclater, 2020; Marshalsey, 2021).

Studies centred around an agreed consensus of studio themes and autoethnographic experiences of the studio educator are harder to locate. However, Lehtonen and Gatto (2020 p.1668) examine autoethnographic accounts as passionate, reflexive design educa-

tors, drawing *"attention to the interpersonal and intercultural dimensions of passion in design education".* Similarly, Boling, Gray and Smith (2020, p.1878) utilise collaborative autoethnographic accounts to reflect and analyse their years of shared and individual experiences and scholarship in studio teaching, examining *"the challenges that arise when studio instructors commit to developing design character in their students".* Several additional studies examine authenticity, productive tensions, typology, applications, ethics, self-reflection, and analysis in collaborative autoethnographic encounters (Walker and Taylor, 2014; Guyotte and Sochacka, 2016; Chang, Ngunjiri and Hernandez, 2016; Lapadat, 2017; Roy and Uekusa, 2020).

Studies of expert elicitation exploring studio themes and the subsequent complex narratives drawn directly from design educators were challenging to locate. Colson and Cooke (2018) define expert judgement and elicitation as a tool to quantify uncertainty with meaningful probabilistic statements. Interestingly, they also say *"expert judgment should not provide the final word on any issue; rather, it should guide future data collection, modelling, and analysis related to the topic",* which is true of the *Studio Matters* community Spotlight sessions and Conversations examined in this paper (Colson and Cooke 2018, p.129).

3. Framing the research questions

It was clear to the convenors of the *Studio Matters* collective that studio was being discussed, researched, and published worldwide in silos. Few studio experts were coming together to explore what studio consists of, in terms of values, practice, materiality, space, questions, and themes. The central objective of the *Studio Matters* community was to bring together these dispersed dialogues into one holistic place for exploration among the invited group of studio research experts. It was intentional and critical that the participating community did not envisage specific narratives or themes from the beginning. Rather, the categories of studio emerged from a series of comprehensive conversations and prompts together over the course of several months. Therefore, the preliminary research question for this study was broad and open-ended at the beginning as subsequent questions and themes emerged later: What is studio? This exploitive approach intentionally aimed at establishing a repertoire of focused research questions over time, which then identified a range of the key properties and values arising out of shared experiences of studio.

4. Methodology

In 2020, the *Studio Matters* convenors invited studio research experts from the broader global design and architecture research community, known for their highly regarded publishing on studio. They were recruited via an introductory email sent to their higher education affiliations. Then, from July 2020 to February 2021, regular online Zoom meetings were held in this newly formed *Studio Matters* community across multiple time zones. To begin, two-hour Conversation sessions were held once in July and once in October 2020. These ses-

sions were generally open and broad preliminary meeting spaces to examine diverse narratives on studio and from differing expert perceptions and perspectives. Then, shorter Spotlight discussions - 45 minutes to 1 hour in length - focused the dialogue on a specific topic emerging from the Conversations, for these sessions. Four Spotlight discussions were held between September and November 2020. As the culminative event of these dialogic gatherings, a *Studio Matters* Symposium was conducted in February 2021.

Two different expert elicitation methods were used; one individual web-based preliminary survey and secondly, multiple group exchanges via Zoom were utilised to better understand the questions and themes of studio (Baker et al. 2014). In July 2020, and two weeks in advance of Conversation 1: Questions, 14 participants of the *Studio Matters* community were contacted and asked to anonymously submit their survey responses. The studio research experts were allocated seven days to respond to this request prior to Conversation 1. This first data set included their preferred studio-based research questions of interest for future discussion, driven by their specialisms and particular curiosities in architectural and design studio education. The *Studio Matters* convenors prompted these considered responses with three open-ended questions in the survey, which asked for a maximum of three thought-provoking questions submitted under each. To be clear, these early questions are not what this paper seeks to answer. Rather, these questions acted as early provocations within the two Conversations, leading to sets of further questions and points of discussion within the subsequent Spotlight sessions, via expert elicitation (Figure 1).

From the 11 survey submissions, the *Studio Matters* convenors collated and themed studio research topics from this early data set, which informed the subsequent shorter Spotlight discussions. The *Studio Matters* convenors also reflected these back to the experts in advance of the first Conversation discussion, via shared access to Google Documents and a Miro working board. Baker et al (2014) supports this notion of using interactive web tools to facilitate interactions during expert elicitations. Next, it was critical for the success of each Conversation for the convenors to not guide the emerging exchanges and dialogues. Rather, it was beneficial if the discourse diverged and converged across and between the commonalities and digressions of the multiple expert narratives, illuminating a fresh panorama of studio as discourse and data. Drawing from these earlier research activities and the data produced at each session, the authors constructed their own reflective narratives, as rich material for further encounters within their preferred fields of study.

Conversation 1 questions were (Q1-3 in Figure 1):

1. What questions drive your research (or interest) in the design/architecture studio?

2. What do you believe are the most pressing questions we should be addressing on the educational studio?

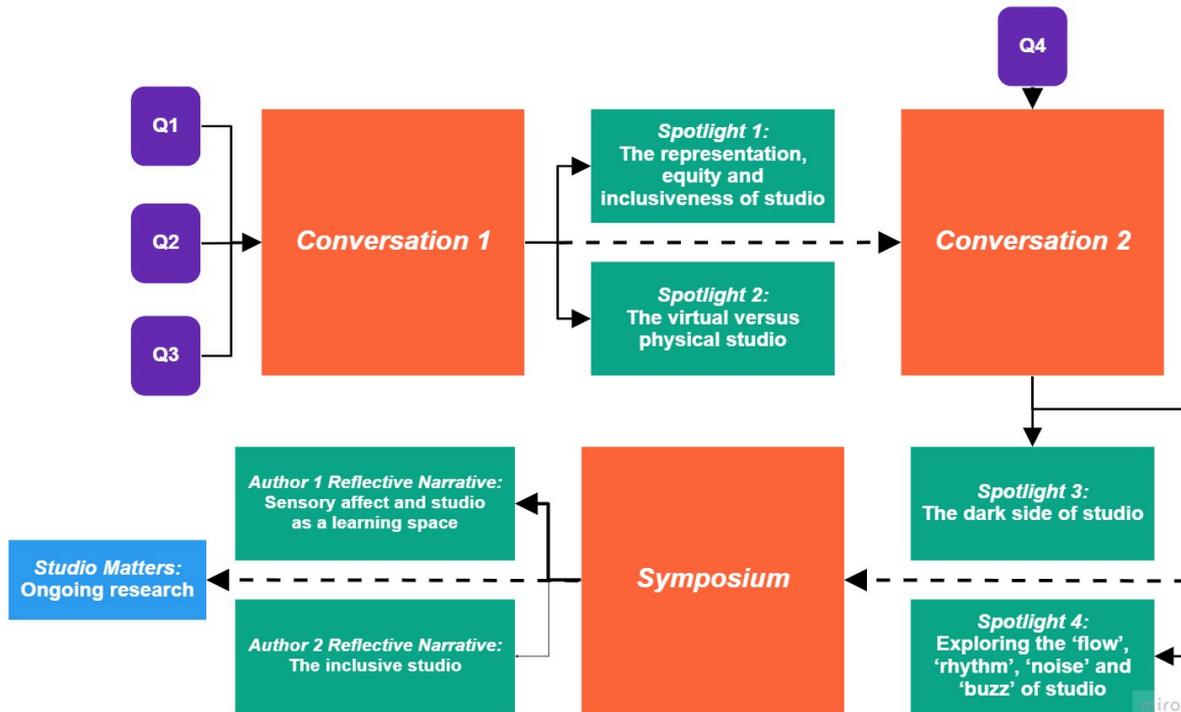3. What is not being asked about the studio – but should be?

Figure 1. A series of short Spotlight discussions and longer Conversations illuminated critical themes in design studio education. © 2021.

These questions were assumed to be answered in ways that were representative of the studio research experts' prior and present experiences of studio, and their professional and personal speculative beliefs of future-facing studio contexts. Then, from the first Conversation, two subsequent Spotlight sessions focused on the emergent themes of *'The representation, equity and inclusiveness of studio'* and *'The virtual versus physical studio'.*

Later, in October 2020 Conversation *2* proposed a further research question: *What are the boundaries of studio and when is a studio not a studio?*

From this Conversation, two further themes were unpacked in Spotlight sessions 3 and 4: *'The dark side of studio'* and *'Exploring the 'flow', 'rhythm', 'noise' and 'buzz' of studio'.* Then, in February 2021, the *Studio Matters* community met in an intensive *Studio Matters* Symposium*,* to further explore the data and diverse repertoire of themes that had emerged in 2020 and to discuss the future directions of studio research. The data collected from these activities (survey results, Zoom audio and video recordings, Miro board and note-taking) was collated into a shared, secure drive and reflected back to the experts for further discussion and dissemination, which is still ongoing today.

Then, the authors conducted their own study using a collaborative autoethnographic approach, as seen in Boling et al. (2020) and Roy and Uekusa (2020). A collaborative autoethnographic approach includes a variety of data sets and is a *"process of internal peer-reviewing starts to form through data collection, analysis and interpretation sessions as the mutual*

scrutiny, interrogation and probing continues" (Roy & Uekusa, 2020, p. 388). Anderson (2006) defined analytic autoethnography as: (1) having complete membership of the researched context, (2) engaging in sustained reflexive attention (3) being visible and having an active voice in the text, (4) engaging in a dialogue with informants that goes beyond the self, and (5) offering a commitment to a data-transcending analytic agenda. As per the autoethnographic tradition, the participants of the *Studio Matters* community first reflectively internalised their experiences of studio before externalising them later as a collective community, sharing insight, perspectives, and stories together. This approach provided a rich data set of transcripts and references from which to analyse and draw upon to form thematic categories. Then, the authors later approached this study through the lens of collaborative autoethnography to determine their own pertinent narratives relating to these themes and this field of study.

5. Findings: Emergent themes from the conversations

It was interesting for the convenors to observe the expected emergent topics (such as debating the merits of 'online and physical studio teaching') and the more embryonic topics ('how is privilege and racism structurally embedded in the studio model?'). The five central themes emerging from Conversation 1 included:

1. **The mode and place of studio.** In the move towards distance and online learning some studio properties have been made visible and others have been obscured. The studio is placed across virtual, physical, hybrid, blended, and alternative platforms, encompassing asynchronous and synchronous modes of teaching and learning.

2. **Representation in studio.** The studio fosters identity and belonging. Design students build competence over time in the studio through community, collaboration, and socialising. Representation, equity and inclusiveness, social justice, and decolonisation of the studio are increasingly important.

3. **The role and competencies of studio-based design educators.** Studio as a form of pedagogy and an area of expertise needs to be better articulated to support design educators in their roles.

4. **Communication of the value of studio in design education.** The value of the design studio is poorly communicated to other educational domains. The social complexities of communication existing across and between studio peers and educators can affect the power structures within the studio nexus.

5. **Contexts of studio.** There are political, social, and economic challenges facing contemporary design education and studio learning. The purpose, form, properties and hegemony of studio and the ongoing discourse of educating for professional employment or personal adeptness needs contextualised.

From Conversation 2, seven further emergent themes arose including:

6. **Studio as a mode of learning.** Is studio as a mode of learning comparable across all design disciplines who employ the studio mode?

7. **Studio as culture.** The output of the studio is essentially, the student. Every studio has a bespoke culture, where learners develop shared identity and character.

8. **The need for social interactions in the studio.** There is a necessity to reflect and collaborate with others, to share ideas and to debrief with, to form networks and studio memberships across interests and overlaps.

9. **The spatial necessities in studio.** The affordances of a studio space, such as light, furniture, air, food and drink, equipment, processes, and production in studio can transcend physical space.

10. **Studio over time.** There is a continuity of values across creative practice from conventional and digital resources, affordances, and behaviours in an evolving studio environment.

11. **Studio as hidden place.** Hidden from the public eye and scrutiny, the studio is essentially a safe space to unpack creative experimentations, developments, and identities alongside others.

12. **Studio as a set of boundaries.** Boundaries operate between private thinking and communal critiquing spaces to develop ideas, peer learning, educator-to-peer-to-peer relationships.

For the purposes of this paper, and as the data sets from the sessions was extensively complex and diverse within and beyond these emergent themes, the full data from these sessions has not been discussed here. Instead, the two authors of this paper chose to share their subjective experiences and contextualize their involvement in the studio expert elicitation sessions as two reflective narratives. Each author sought to draw interpretation from the thematic data pertinent to their own fields of interest. Both authors address core themes that repeatedly emerged in the Conversations and Spotlight sessions and that relate to their own experiences. Within thematic analysis, Braun & Clarke (2006) suggest two levels: semantic (surface meaning) and latent (deeper interpretation, theorisation). The semantic themes emerged from the Conversations and a selective latent thematic analysis is presented across two different author positions and in two distinct self-narratives.

5.1 Author 1 background and positionality

As a Senior Lecturer in Design and Technologies for Education at the University of South Australia, and a studio researcher in design education, it is important that I outline my ontological position as a subjective investigator in the context of this study. Several years ago, I began to question my own experiences and engagement levels in design and studio learning

environments within higher education. I reviewed my experiences of the learning spaces in which I teach every day, and my sense of place in both specialised studio-based and generic classroom-based educational environments: investigating the senses, affect and studio learning spaces in education as sensory affect. Sensory affect is the influence of experience detected through the body; those experiences detected every day by the normal studio population.

5.2 Sensory affect and studio as a learning space

Because of the pandemic, my self-reflective, autoethnographic approach to my physical teaching practice intensified, as I was forced to confront my discomfort at adapting to online studio pedagogies, conducted from home. I was challenged to convert my studio teaching from a timetabled physical learning space on campus into two seldom used teaching and learning spaces for me; firstly, from my home environment and secondly, through an online platform. I identified personal experiential comforts and disruptive factors as I compared my previous experiences of physical learning spaces and my current home-based teaching environment as I engaged with students offline and online. I became aware of the conditions both intruding and supporting my flow and that of the students. To investigate how my engagement levels might be sustained or interrupted, I collectively accumulated the impact of each experiential sensory affect before, during and after the pandemic: noise, drafts, poor furniture layout, light, visual inspiration, creative mess, the inability to use physical teaching and learning resources and my frustration with Technology-Enhanced Learning (TEL), among others. Previously, over several years, I had researched the experiential impact of sensory affect as I sought to bridge the gap between reflective teaching practices, student engagement and mainly physical learning spaces in design education: through the lens of sensory affect, what is it that makes studio-based learning spaces effective? I realised sensory affect influences the experiences of many individuals and groups across a diverse array of learning spaces available today, including studio. This paper identified aspects of my research of studio teaching and learning emergent in the *Studio Matters* themes, as I continue to explore the intertwined complexities of sensory affect and home-studio/physical-studio/online-studio learning spaces.

In the thematic analysis of Conversation 1, the chronology of learning spaces from specialised closed studios to open-plan physical learning spaces to generic, high-turnover online and distance educational environments was a persistent undercurrent in the emerging themes. Secondly, the confusing repertoire of distance, virtual, hybrid and blended learning platforms available in widespread online teaching in higher education today meant that pedagogical connections between educator and learner were often in disarray (Marshalsey and Sclater 2020; Marshalsey 2021). I also noted the boundaries, places and modes of studio learning had become a central narrative in the discussions, and increasingly multi-directional, intersectional and ill-defined in recent years. Studio was becoming non-physical and intangible to locate. This escalated what we, as a *Studio Matters* community, considered as the impacts of online and technological advancement in mainstream education. Unlearning

and relearning studio from 2020 had been a pleasant surprise for many of the experts and in the ways in which we now engage with our design students.

However, many unanswered questions remained for me and others when discussing these post-pandemic perspectives: Is studio turning into a new future-focused version of itself? How do educators create affective encounters in the studio moving forward? Can seeing the movement of people on an online Miro board replicate the productive flow, rhythm, noise, and buzz of a physical studio? Taking these points into consideration, my studio research now deliberates the rich landscape of possibilities of the home-studio/physical-studio/online-studio learning spaces, when becoming aware of the sensory affect affecting engagement of educators and students in each space typology.

5.3 Author 2 background and positionality

I have been fortunate to experience diverse studio-based education approaches in different parts of the world and in different modes (hybrid, virtual, community-based, etc.). I position myself as a design education scholar with a particular interest in diversity and the socio-cultural contexts of designing. As a Senior Lecturer in Design at the Open University, a major distance education institution in the UK, I design online studios and design-based courses. When evaluating these, I attempt to understand the challenges students experience at a distance. The physical studio is difficult to recreate online and at a distance, and design educators find it challenging to develop a sense of belonging and an understanding of what matters in a discipline, which the emerging themes 'studio as a place', and 'studio as a culture' address. I felt it was important to better understand the underlying mechanisms and hidden curricula that inspire learners rather than traumatize, and to identify best practices to support studio-based distance education in design (e.g. Lotz, et al., 2015). When I took an EDIA (Equality Diversity Inclusivity and Accessibility) leadership role at my institution, I reflected on my own experiences of marginalization and re-examined the injustices and inequalities others experienced around me in the studio.

5.4 The inclusive studio

Owing to these experiences, I view the studio through a particular lens, but I learned in the *Studio Matters* discussions, that I am not the only one. This was mirrored in the theme 'representation'. I also noticed an increasing focus on inclusivity and diversity in the studio in our Conversations, which was both surprising and yet familiar to me. Since its inception in 1969, the Open University's (OU) mission has been to 'make learning accessible to all'. I learnt that many OU students have considered or tried studying at traditional universities but were excluded due to additional needs or adverse circumstances, such as the need to work or care for others while studying or dealing with health issues and biases that played out due to other marginalising factors such as gender or gender identification, age, race, and socio-economic background. The commitment to our students is that even though they may

enter design education via our open entry policy with varying levels of skills and competencies, they will, at graduation, have achieved a comparable level of success as graduates from other institutions.

5.5 Studio cultures

Many design studios have a culture of 'sink or swim', as I have experienced myself in attending an art and design school in Germany. Competing with peers and achieving mastery, in the image of an instructor, are part of the 'hidden curriculum', which is maintained through mechanisms of the 'crits'. While this process of inculturation may have some strengths, e.g. by helping learners to take on the identity of a designer and develop resilience, our discussion queried why there is such a limited range of identities being developed within any one institution? How do we move away from the homogeneous view of who a studio person / designer is to more pluralistic views of designers (Lanig, 2019)? How can we value different pathways into the studio and prior experiences while developing a designers' own values? The studio must be a safe space for learning from mistakes, the development of expertise and for emergent identities, for experimentation and changes in identity over time, which is reflected in the theme 'studio as hidden place'.

The open access policy at the Open University creates unprecedented opportunities to diversify the pathways into the design studio. With an average of 700 students the first-year virtual design studio is sizable in scale, and unimaginable as a physical studio (Lotz, et al., 2019). And while student feedback does confirm that the self-directed, flexible nature of distance education is more accessible than other learning modes, giving access to education is only one aspect of inclusion, and continuing participation in the studio is quite another. Inclusive competition might be an oxymoron but describes well what goes on in our online studio. Timely activities that build on the students' lived experiences and introduce new perspectives and skills with each activity are the foundation for social engagement with peer work and evolving identities, which is addressed in the theme of 'social interaction in the studio'. Students don't want to be labelled incompetent when sharing their work in progress, but due to the sheer number of students sharing (critical mass), the 'studio anxious' experience a variety of creative responses and levels of skills. Social comparison at any level of expertise gives students permission to participate (Festinger, 1954).

5.6 New boundaries

The value of social comparison breaks down easily when inconsiderate critical comments are made in writing. While we might think a certain bluntness in crits should be expected (which I only partially agree with), the shared physical, social, and cultural proximity in the traditional studio often softens the blow, a peer might give you some more relevant and encouraging remarks after the crit (see examples in Barrett, 2019 and Gray, 2013). While OU students report that their friends and family sometimes do take on such roles, they are not immersed in the project or studio to fully understand. The voice and intonation as well as non-verbal cues and embodied routines (or equivalent) are missing. For learners isolated in their

homes and who may have systematically been denied developing self-confidence, such comments can be devastating. Here, some might counter that design education is just not possible at a distance or for some groups of students, but I would maintain, in line with the other discussants' contributions, that studio education is based on a norm of able bodied, white, middle-class students with good mental health wellbeing and resilience that is no longer defendable. For me, these aspects exemplify the theme of the boundaries of the studio.

Surviving the studio gives the graduate confidence to be ready for professional practice. OU graduates survive the long-haul, the isolation, the interweaving of life experiences with study, and the crises that emerge at its intersections. This produces a studio with extended boundaries, in a personal, social, and cultural sense. OU learners often drawn from their personal life experiences and environments. I talked to a student with anxiety disorder and OCD who created immaculate and detailed designs for blind users co-working with their grandma, or a student with ADHAD co-designing care equipment with a care home across the road from their home. Here the boundary of the studio is drawn out from an individual pathway to the immediate social environment and creating a culture of studio that respects those individual preferences and choices.

5.7 Collaborative narratives

Both authors examined each other's narratives, and we first identified the commonalities between us as a form of data analysis. Both narratives emerged from a place of learning design at a distance and the difficulties recreating studio learning online. We both seek to instill a sense of belonging of studio; one through the lens of foregrounding sensory affect and the other through the lens of inclusion. We realized embracing multiple and hybrid modes in the studio advances the inclusiveness of the studio. Online spaces were more inclusive yet may exclude other factors we don't see. Ingrained power dynamics and formal barriers maybe be less potent online as students see educators increasingly as peers and the informality of working from home became visible.

The dominant themes emerging from the expert narratives were the change in everyday learning spaces because of the pandemic: the domination of digital learning platforms and the reduction of conventional and specialised physical studio learning. Many expected themes surfaced in the thematic analysis, which stimulated a rich bed of discussion of the need for other people in the studio to reflect, interact, design for and with. Critiques were central to studio learning and the notion of 'sociology of maquettes' operating as boundary objects themselves: between ideas; designer and object; student and educator; peer to peer; designer and public stakeholders. The practical components of studio learning and the need for light, space, equipment, processes, among others was also apparent.

There were several surprising and under-researched themes that emerged including the whiteness, privilege, and racism of studio (how white is our curriculum, and what can we do to change that?) and the lack of inclusion of disabled learners and educators in studio. Discussants, with one exception, were mainly white global north academics, and without

shared lived experiences to drive the discussion, there was an inability to find the right words and concepts to discuss and theorise this theme. While pluri-versal approaches to studio are becoming more prominent, further research is required examining absent knowledges in, or approaches to, studio and the experimentation of co-producing studio projects with diverse students and communities. The decolonisation of the design curriculum and studio needs much more exposure in literature. We need to empower multiple voices in the studio and in studio research. This theme linked to an unexpected discussion theme around what it means to be counted as a 'viable' designer. Design education should be transformational, but often we create new designers in our own image. Designer identity and character is multi-directional and should emerge from conversations and co-constructions, allowing for plurality of emerging identities. We see a new focus in the literature to move away from skills, methods and processes to character development and making values explicit (e.g., Boling et al., 2020).

Interestingly, these themes and the hidden curriculum of studio have been foregrounded through the changes to studio delivery during the pandemic. It was encouraging to note inclusion has been core to many discussions. However, moving studio learning into the virtual, computerised sphere doesn't necessarily grant equal access and participation to all. Bowers and Hayle (2021) argued the graphic interfaces common in software applications exclude visually impaired design students because of the missing haptic feedback to orient themselves. There is a gap in studio research that looks at how to enable (shared) sensory experiences for abled and disabled students at a distance.

6. Conclusion

Unlearning and relearning studio from 2020 onwards has been a pleasant surprise for many experts, educators, and students, and the ways in which we engage with others and with our academic peers. The *Studio Matters* collective of experts sought to question the norm of studio. It helped us, as individual and collaborative auto ethnographers, to go beyond what studio is to what studio is not. We illuminated the themes which should be researched, and which are not, but should be in our academic debate on studio. It was a valuable yet challenging experience to attempt to define what matters within the contemporary studio, particularly in the current state of multiverse that we find education in. Therefore, we concluded the overarching theme of this study to be the multi-everything and extreme plurality of studio as is happening across spaces, curriculum, pedagogies, and the actors of studio today. Studio is evolving, bringing studio values of the past into a more complex future form. The newer structures of a pluriverse-studio clearly emerged in the themes relating to modes, places, representations, roles, contexts, cultures, and boundaries. The 12 identified themes offer opportunities to further explore future iterations of studio learning in design education. Emerging from a pandemic which has thrown up the expectations, surprises, new perspectives, and the aspects made visible in the last two years, what will a pluri-versal studio look like moving forward – in 5 years? In 10 years? In 20 years? The commonalities be-

tween the themes do indeed trigger considerations of the effect of a variety of studio platforms on the senses (sensory affect), and the requirement of an increased focus on inclusivity and diversity in the studio. If studio was difficult to define before the pandemic, it's become even more complex today.

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