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From Sharing Screens to Sharing Spaces

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Abstract

The enforced move to remote teaching delivery over the last year has brought many challenges to studio-based courses and the traditional modes of delivery that are often associated with UK Art Schools. Central to these challenges has been the loss of the design studio as a focal point for engagement and learning within a community of practice. However, the conviction that design is a subject that can be taught not just learnt through communal experience has propelled alternative remote modes of engagement to be explored through this period of separation from our on-campus environments. This study details the use of the on-line application Miro as an analog to the traditional 'physical' design studio in facilitating remote delivery to studio based undergraduate design and craft students. Reflecting on the delivery of five projects between November 2020 and April 2021 the authors describe how Miro was used as a platform to structure teaching delivery, share creative content and as an environment to foster remote dialogue amongst students. Through an evaluation of each project's delivery within digital spaces the authors identify the emergence of new behaviours and new opportunities that can support students working in digital studios to move beyond sharing screens to sharing spaces.

Keywords

design pedagogy, remote learning, communities of practice, design Studio, sticky curriculum

Introduction

One of the key impacts of the COVID-19 pandemic across Higher Education, was an acceleration of the use of emergent technologies, particularly those that support distributed working, to support learning. Whilst the last 15 years has seen a radical shift in people's relationship with and access to technology, its impact on the day-to-day studio-based teaching taking place in art schools across the UK has been more modest. Whilst much has been written about the potential for such technologies to support learning (Orr, 2017; Deakin and Webb, 2016; Tovey, 2015), adoption within UK arts education has been slow and generally focussed on a blended approach rather than a completely digital approach. Indeed, prior to the COVID-19 pandemic, the authors had little engagement with, or understanding of, how digital technologies might be used to create a completely digital studio environment.

This study reflects on how an online collaborative platform (Miro) was used to create an ad-hoc digital studio environment in response to an inability to teach in person due to the COVID-19 pandemic. The Miro platform was chosen due to its widespread use within professional practice, providing an easily accessible collaborative whiteboard space for remote sharing of thoughts and ideas. Though it was not an institutionally supported software it afforded free

access and provided a simple, intuitive user interface. Specifically, the paper examines the rapid shift to on-line delivery within the context of a UK undergraduate Product Design programme and how this impacted the teaching of projects traditionally taught in a studio. This paper is our contribution to the ongoing effort to understand how Art & Design pedagogy might continue to develop in response to the COVID-19 pandemic. Our contributions are two-fold:

1) to recognize the behaviours emerging within this new digital space and reflect on these in the context of existing physical studio practice and pedagogy.
2) to identify which aspects of this digital studio environment offers the most potential for use by traditionally studio-based subjects in the future should the need arise again.

Figure 1. The studio workspace in action

The Design Studio

The enforced move to remote teaching delivery over the last year has brought many challenges to studio-based courses and the traditional modes of delivery that are often associated with UK Art Schools. Central to these challenges has been the loss of the design studio as a focal point for engagement and learning.

The studio, as described by Shreeve et al. (2010), is a space of shared, prolonged, communal activity where the process of making is visible and a focus for comment and debate. Although increased financial pressures on many UK institutions have forced a reduction in the capacity for large discursive studio spaces over recent years, some kind of communal learning environment has usually been maintained, continuing to offer staff and students a studio-based ethos for teaching and learning (Tovey 2015). According to Spruce (2007, p.2) “the studio is not just a space marked studio; it represents a way of thinking and learning” and despite institutional pressures, the ethos of studio learning culture remains a strong ambition for many tutors and students. The popularity of the design studio can be considered through four lenses: Mediating, Sticky, Social and Habitual.

Mediating

Shreeve et al. (2010) describe the studio as a 'mediating artefact', the space itself acting as a key part of a student learning experience. They assert that the space can dictate and affect the content and delivery of teaching and furthermore that it can influence the approaches undertaken by students. It is a space "in which the process of making is visible and a focus for comment and debate by all who wander through" (Shreeve et al., 2010, p.134). According to Spruce: "investment and customisation leads to a sense of ownership of the space itself, and it is at this point that a studio learning culture can begin to develop amongst the student body" (Spruce, 2007, p.3)

Sticky

Orr & Shreeve (2018) describe the studio as an essential part of creating the 'sticky curriculum' in providing a draw for students to return to: "bringing people together to engage in an activity or to see something of collective interest… Stickiness is an attraction or focus creating a social gathering" (Orr & Shreeve, 2018, p6). But Stickiness is also a recognition of the ambiguous and challenging nature of the Art & Design curriculum, described as "a complex web of activities" (Orr & Shreeve, 2018, p7) co-constructed with students wherein they must question and challenge. As such, Stickiness demands that the studio environment is elastic and adaptable.

Social

An essential part of Orr's stickiness is the idea of the studio as a social environment and a place of social exchange. Tovey (2015) suggests that at its best the studio can be a marketplace for ideas and integration which is at the core of design synthesis. Within this view of the studio as a marketplace McCullagh & McFadyen (2015) highlight how tutors can also view themselves as co-explorers with students in the learning space through experimentation and shared learning.

Through its social constructivist approach, (Smith Taylor, 2009 from Shreeve et al 2010) the studio promotes active student engagement and fosters a sense of community ownership and collective voice creating a space wherein the learning of certain skills, attributes and customs are passed-down through observation and participation within a community of shared practices (Lave & Wenger, 1991). Similarly, Tovey suggests that "learning within a community of practice is an expression of identity formation… a process of becoming - in this case a certain kind of creative and critically minded design practitioner" (Tovey, 2015, p.38). One of the principles of this approach is the opportunity provided for formal and informal collaborative peer learning (Marshalsey & Sclater, 2020) where exchanges are dynamic, supporting iteration and experimentation in ideas and thinking.

Habitual

Shulman (2005) identifies signature pedagogies of creative arts education as being "pervasive, routine and habitual" within students' learning experience and goes on to highlight the value of routines in permitting students to spend less time figuring out rules of engagement, and more time focusing on subject matter. These habitual patterns of tutorials and crits help to create what Shulman (2005) describes as "pedagogies of uncertainty", the processes by which the ambiguity of Orr's sticky curriculum is navigated.

Across these four perspectives we can recognise that the studio creates the capacity for a structured, communal, habitual learning process that encourages and scaffolds students' capacity to challenge, experiment and grow. Furthermore, the studio space itself can dictate the way in which this is achieved in unique and idiosyncratic ways. The challenge presented by the COVID-19 pandemic was how to translate some of these aspects of the physical studio into a completely digital environment.

Reflections from Practice

To consider the ways in which Miro might be utilised to both mirror and transform the concept of the studio, we reflect on five projects that utilised Miro between November 2020 and April 2021. In September 2020 (semester 1) we were thrown into the position of again having to rapidly transition from teaching in person to teaching online. In the case of 1st year students, this was their introduction to both University life and the course: its staff, approach and ultimately identity. Our initial response to this was to use the collaborative tools provided and recommended by the University - MS Teams and our existing Virtual Learning Environment, Moodle. After completing the initial 6 week unit with students, it was evident that whilst MS Teams provided an adequate medium for communicating with students, it lacked the capacity to emulate the experience of design studio pedagogy. At this point we sought to use Miro to complement MS Teams, making the shift from sharing a screen, to sharing a space, creating a more robust analog of traditional studio practice. Miro was used as a platform to structure teaching delivery, share creative content and as an environment to generate dialogue amongst students. The projects delivered across our 1st and 2nd year undergraduate courses were broadly similar in terms of scope, following a design process comprising phases of research, ideation and the presentation of final outcomes, but the utilisation of Miro in each instance was different.

Each of the five projects are detailed in Table 1 and include: project context; Miro space created; pre-planned characteristic exchanges; emerging (unplanned) exchanges that occurred within a project. In each case the Virtual Learning Environment (VLE) Moodle was used as the main repository for project handbook documentation, lecture slide recordings and announcements. MS Teams was utilised for verbal dialogue and Miro for interaction and discussion around student's work.

Table 1. Project contexts and characteristic exchanges

	Project A	**Project B**	**Project C**	**Project D**	**Project E**
When	November 2020	January 2021	January 2021	March 2021	March 2021
Project and Unit Title	**Project A** Product Design & Innovation	**Project B** Investigation & Application	**Project C** Understanding Context (RSA Design Awards)	**Project D** Unit X (external project partner)	**Project E** Unit X (external project partner)
UK, UG Level	2nd Year (L5)	1st Year (L4)	2nd Year (L5)	1st Year (L4)	2nd Year (L5)

	Project A	Project B	Project C	Project D	Project E
No. Students	10	56	24	54	64
Mode of delivery	Blended	Blended	Online	Online	Online
Modes of practice	Students worked individually	Students worked collaboratively and individually	Students worked individually	Students worked collaboratively	Students from a range of creative disciplines worked collaboratively
Notes	Students who had previously worked together	Students from two pathways and unfamiliar with each other	Students from Project A	Students from Project B	Students from eight different disciplines. Cohort was unfamiliar to each other.
Exchanges in space					
Icebreaker / Sandbox	x	x			
Individual Pin Up / Crit	x	x			
Group Pin Up / Crit				x	x
Individual Workshop Activity	x	x			
Shared Workshop Activity	x	x			
Individual Tutorial	x		x	x	
Group Tutorial/Seminar			x	x	x
Instructional Exchange			x	x	
Tutor-led Discussion			x	x	
Asynchronous Exchange			x	x	x

Summary of Characteristic Exchanges on Miro

Icebreaker/Sandbox: Tutor led activities introducing students to Miro software but also to the processes of sharing and commenting on peer work.

Individual Pin-up/Crit: Opportunities to share work and elicit feedback from tutors and peers. Feedback would typically manifest through the use of digital post it notes.

Group Pin-up/Crit: Opportunities to share work and elicit feedback from the 'client', tutors and peers. Feedback would sometimes manifest through the use of digital post-it notes but was largely oral.

Individual Workshop Activity: Highly structured design-process driven activity, delivered to the whole group but completed individually with feedback from peers.

Shared Workshop Activity: Highly structured design-process driven activity, delivered to and completed by small groups with feedback from peers.

Individual Tutorials: 1-2-1 dialogue with students, discussing progress and planning forward actions. Tutorial conversations were driven through synchronous review of work placed on the Miro board, using virtual post-it notes to capture comments and agreed actions directly alongside the work.

Group Tutorial/Seminar: Dialogue with students to discuss overall progress. Sessions were generally hosted on MS Teams but students would often utilise their own private group Miro boards to show progress. Again, feedback was largely oral.

Instructional Exchange: Delivery of the weekly primer activities. These were each located on the Miro board within a defined space for the activity and presented at the launch of each session, enabling students to respond individually within the context of a directed activity.

Tutor-led discussions with focused student groups: Posing questions and eliciting responses in moderated exchanges to prompt peer review, externalise viewpoints and promote self-reflection. Outputs from these group discussions were usually imported onto the main Miro board to prompt peer review from the whole group and self-reflection moving forward from the session.

Asynchronous Exchange: Via post-it notes placed onto student's work outside of taught sessions. Though this was driven mainly by tutors to prompt thinking and suggest forward actions, some students did engage in peer-to-peer exchange, posting comments on each other's work and also posting replies to tutor comments.

Evaluation

Analysis of all the activity in Miro established that the platform offers significant benefits in use, both in the absence of, and potentially in parallel with, co-located working. Within each project the Miro spaces quickly created rich, shared, visual repositories that reflected different journeys through the design process. These spaces afforded opportunities for participants

including staff, students and external guests, to engage with the projects and each other in new and often unexpected ways. The spaces also demonstrated a permanence and accessibility that would be hard to recreate in a modern physical studio environment. A key aspect of this was the way in which the digital spaces overcame barriers that can affect physical studio environments such as time, space and money.

Within Miro, participants could utilise the spaces both highly synchronously - working collaboratively at the same time, or highly asynchronously - accessing the space independently outside of structured lesson times, in effect creating a 24 hour studio space. The scale of these visual repositories was unprecedented and unachievable within a traditional physical studio environment, particularly in light of the pressures inherent in many modern art school studios wherein space is shared and pin-up space is limited and time-bound. The cost to realise this kind of visual repository in a physical environment would have been prohibitive both to the programmes and to students when considering the costs of printing imagery, post-it notes, paper, pens, markers, etc. Furthermore, the quality of the work in the repository did not diminish over time (as perhaps a cluster of post-it notes on a wall might). Not only was it maintained in its original form without any signs of ageing, it was also easy for it to be revisited, recategorized and remixed throughout the project with little or no impact on resources.

Observing the utilisation of these spaces revealed the emergence of a series of new behaviours and opportunities. In the Product Design domain, we identified insights in four significant areas. (1) Making the design process explicit, (2) Making the student journey visible, (3) Communities of practice, (4) Independence and Ownership.

Making the Design Process Explicit

The use of Miro to locate both collaborative group activities and individual student's projects has provided a rich visual canvas for tutors and students across all projects. In particular, the ability to visually formalise the design process has emerged as a key characteristic of digital delivery. Project D shown in Figure 2, viewed on full zoom is an example of this. In such ways, these visualisations of the design process in Miro help students to make tacit design process knowledge to become codified and explicit, and in this sense, the space became a mediating artefact. The visual representation of the design process in this dynamic (micro to macro) format also enabled a clearer understanding of the relationships between the various methods and stages of the process to be recognised as students ‘joined the dots’ of their own mental model of the design process.

Figure 2. Project D collaborative Miro board space

Within project B, a series of mapping exercises were particularly useful in engaging the whole group as one, whilst enabling individual opinions, preferences and character traits to be manifested, observed and discussed within a mediated space. When taught workshops exposed students to new design research approaches and thinking methodologies, the frameworks for these, such as 'The Thing from the Future' game in project B became touchstones that could be referred to and revisited throughout the project, helping to structure and guide subsequent development as shown in Figure 3. Whilst these activities are similar to those delivered in a co-located workshop setting, the fact that digital workshop materials stayed in-situ on the Miro board and could be accessed repeatedly by students throughout the project allowed a familiarity and understanding of the process to grow over time.

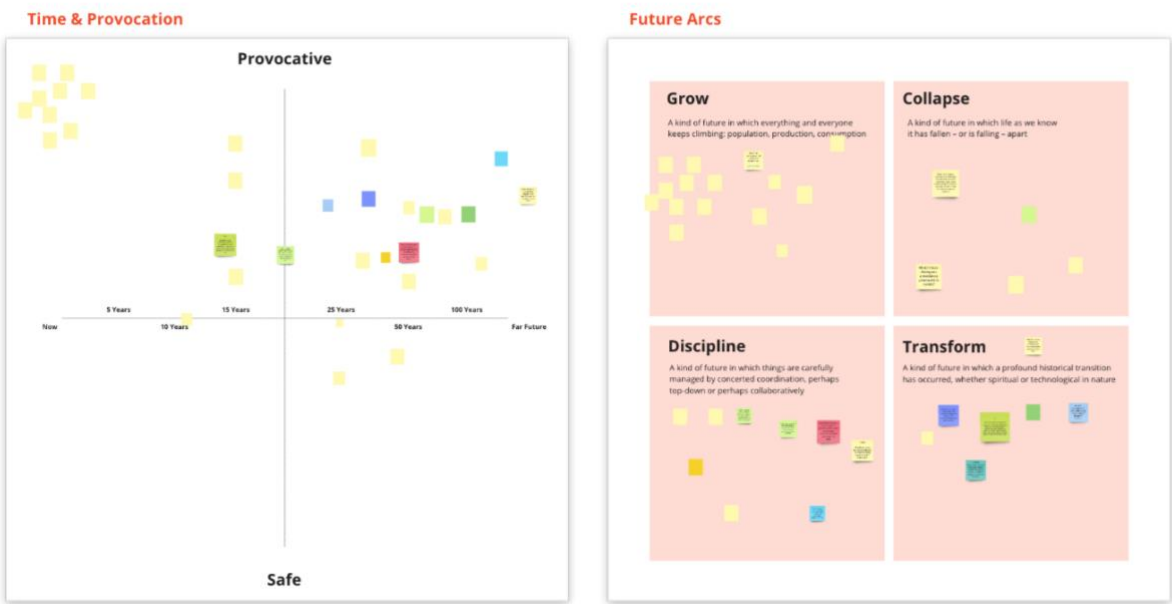

Figure 3. Guiding frameworks used as reference points throughout Project B

Miro tutorial spaces that were often created independently by individual students and quickly became an effective repository to share visuals from other Miro workshops. For example, Figure 4 shows imagery generated within a creative methods workshop being used by a student in a tutorial as inspiration for design ideas. The simplicity of quickly sharing information enabled tutors more time to explore ideas in more depth with each student. Inserting lecture slides directly into Miro spaces also became a pragmatic way to make explicit connections between teaching materials and the students design process and reference methods in direct relation to the students work. Similarly, live sourcing of research, inserting websites, visuals or movies could be used during tutorials and/or referenced afterwards asynchronously.

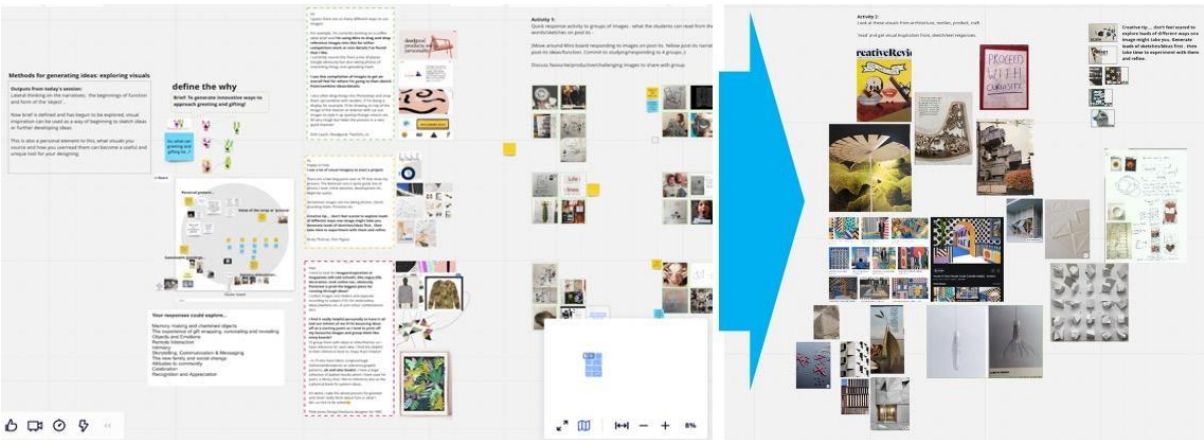

Figure 4. Application of workshop materials to inform ideas generation

Making the Student Journey Visible

Just as the design process was made explicit by the digital space, so too was the journey of each individual student. From initial observations and research through development to final presentation the opportunity to chart each student's personal journey and progress through the design process has proved highly valuable.

In fostering the sense of a learning journey, project B was specifically structured in order that workshop activity enabled the students to build contextual frameworks around which they could make sense of their design work. At the same time repetitive crit structures at the start of the project created a visual journey for each student that enabled them to reflect on and make sense of their decision making throughout the project. Though, as structured workshops and activities are often quite fast paced it can sometimes be hard for students to comprehend and make sense of the processes at play rather than just participate in the workshop. Asynchronous access to the boards allows a greater capacity for students to revisit the processes, taking the time to review their peers' work and to ensure they understood the activity, in some cases students would re-do the activity to satisfy themselves that they had understood the meaning or value of the activity.

Similarly, collaborative group sessions delivered as part of project C using Miro as a whiteboard space shown in Figure 5, supported an externalising of thoughts and ideas early in the unit's delivery. These activities highlighted the potential breadth and scope of each brief within the

tutor-led sessions and also enabled students to return back to the whiteboard spaces to compare opportunities and design directions. The ability to visually manipulate, organise and reorganise post-it note comments over a period of time was very useful in defining clear forward actions for students to explore and to return to at moments of decision making later in the projects.

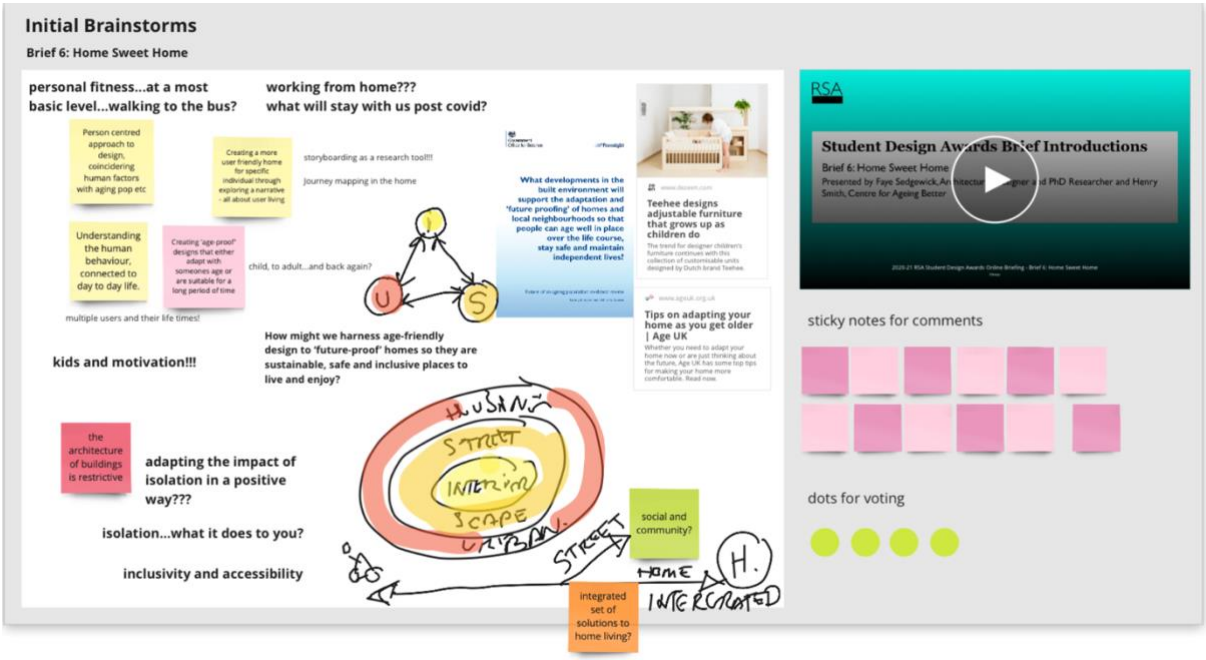

Figure 5. Using Miro as a collaborative whiteboard space

From a teaching perspective, the ability to quickly refer back to previous workshop exercises with individual students or peer groups created the opportunity for rich discussion and dialogue. The visual overview offered by the Miro boards also proved useful when feeding back to other staff, reviewing a project's progress or issues to address in the next teaching week.

Working collectively within a digital space throughout a project, as in project C, exposed students' work to each other in a way not previously experienced. This was challenging and potentially uncomfortable for those who lacked confidence. Over a period of weeks there became some noticeable gaps in the boards where students had not posted work following a session. Anxieties surrounding the posting of work were discussed and although the value of the exercises were acknowledged some did not post work onto the boards beyond initial group activities, but continued to engage in tutor-led workshop sessions throughout the project's delivery.

Communities of Practice

Fostering communities of practice (Lave & Wenger, 1991) to support learning is recognised as a fundamental aim of the design studio environment and is at the heart of the social learning ethos as described by Orr & Shreeve (2018), Schulman (2005) and Tovey (2015). As we have highlighted, the capacity of the Miro space to make design processes and student learning journeys visible, shared and explicit helps to create communities with shared understandings, approaches, and skills.

Work within the Miro environments often alternated between collaborative and individual activity. This rhythm of behaviour created space for individual expression to emerge through habitual use whilst providing the scaffold and support that peer learning provides. Tutor-led workshops often engaged students as individuals but encouraged them to support each other to make sense of their individual responses through group discussion and reflection. This highlighted individual approaches and ideas whilst simultaneously fostering shared understanding and knowledge transfer. In such cases the ability to easily refer to each other's work in the shared space was highly advantageous.

In projects A and B, a series of mapping exercises were used intermittently throughout the duration of the projects. These served various purposes, but consistently provided a snapshot of the whole cohorts thinking at a given point in time. In one example shown in Figure 6, students were asked to map their own levels of excitement about the project and their approach to it relative to the rest of the group. For example, capturing the 'excitement' levels at the start of the workshop and then revisiting it towards the end of the workshop helped to visually demonstrate both the collective 'mood' of the studio but also the progress that had been made individually and collectively, fostering a sense of a shared achievement. These 'zooming out' exercises were useful in creating a break from the intensity of the individual activities whilst also providing an at-a-glance overview of the collective mindset. Establishing these viewpoints helped to identify both commonalities and differences, ultimately leading to better understanding within the group.

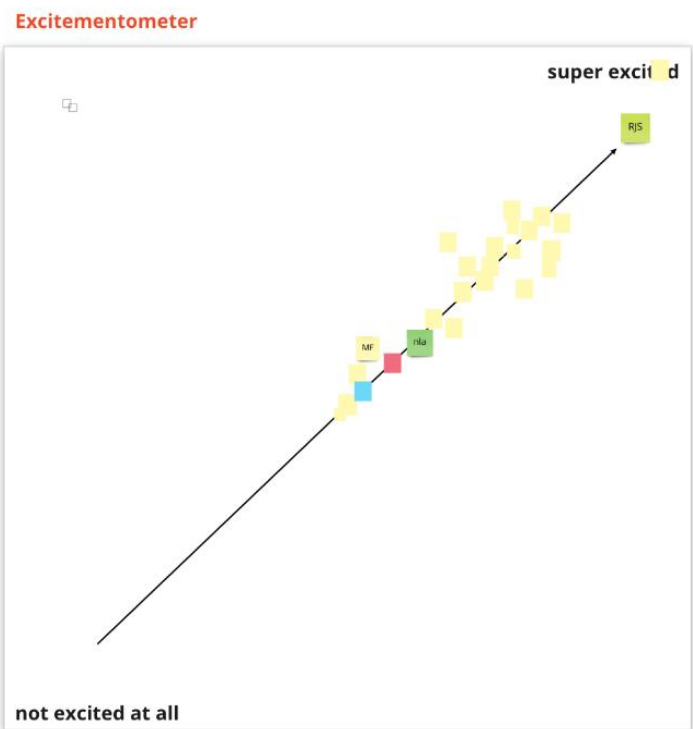

Figure 6. Mapping levels of excitement about the project

Peer review, feedback and reflection was widespread and consistently thoughtful, constructive and critical. This helped to foster a sense of community amongst the cohort, wherein students

were able to work together to present scenarios and approaches for problem solving, further research, new techniques and alternative approaches. These moments of synchronous collective activity provided a unifying feature within the context of students busily progressing their individual project work. For example, a short series of peer review questions as seen in Figure 7, afforded everyone the permission to look beyond the immediacy of their own projects and engage in a collective exercise that highlighted the benefit of social exchange as part of their learning experience.

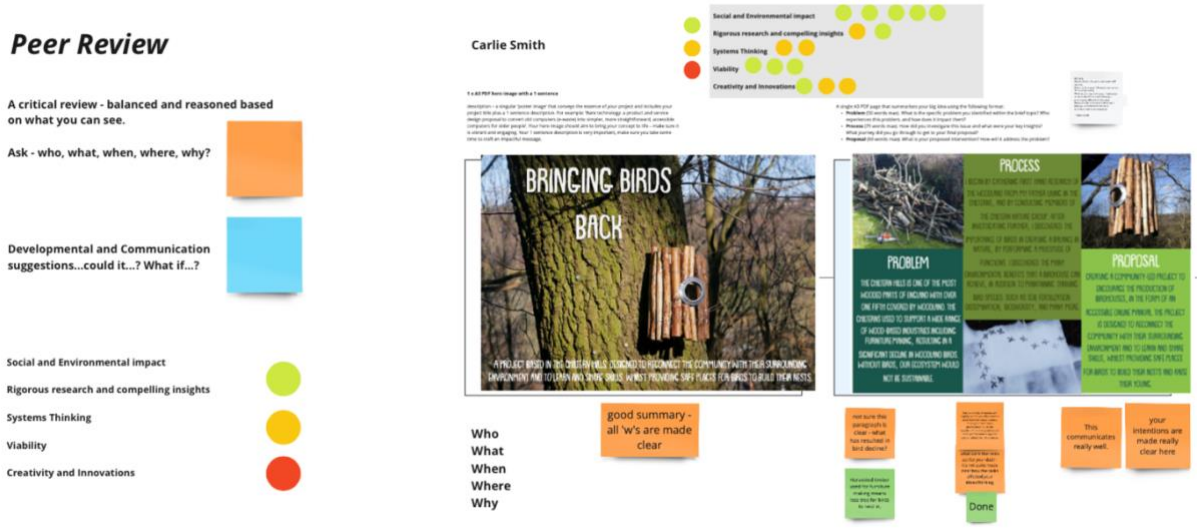

Figure 7. Peer review exercise within Project C

By contrast, the capacity to engage with the Miro boards asynchronously afforded students the opportunity to revisit the space outside of timetabled sessions, observing and drawing on others work to enable them to develop their own. The village green and wedding tables formats as shown in Figure 8 were designed to explore and further facilitate peer-to-peer exchanges at different stages within the unit's delivery. In particular to promote conversations with students who may not have talked to each other before.

Figure 8. Alternative peer exchange formats used within project C Miro board space

The spaces could be seen to support and nurture a communal social-studio environment, providing a focus and meeting point for idea development and exchange. Tutors were able to

observe the way that individual students approached their work and how they interacted with each other in groups whilst students began to establish and develop relationships, creating the capacity for shared exploration and conversation. These spaces support the development of a community of practice by enabling individual development within the frameworks of explicit design process and the scaffold of peer learning and support.

Independence and Ownership

Alongside the emergence of communities of practice, we also observed students developing their own independence within, and taking ownership of, the (digital) studio space. As previously stated, the scaffold of habitual approaches and peer learning, provides mediation via structured spaces and activities creating a supportive environment that enables individuality to emerge and be expressed.

Individual workshop activities and peer feedback allowed the students to start to express their own identities and interpretations of the brief. These exercises were created in such a way as to provide students with their own personal workspaces analogous to those typically found in a design studio. In project B, the first workshop exercise engaged students in mapping their individual interests in order to define smaller working groups with common interests. The personal nature and shared interests inherent in this task led to rich discussions among the groups and ultimately provided the students with some control over the project, evidenced not just in the themes and directions it exposed but also in the different approaches taken to map and organise their shared thinking.

As independence blossomed, it was also interesting to observe a degree of ownership of the space emerge in some students, wherein they would take control of how they utilised the space during tutorials, in some cases establishing new (breakout) spaces in which to share more work or explore tangential ideas. This was also evident in group activities where work grew organically beyond the predefined spaces that were set out, as in Figure 9, where the semi-infinite canvas provided students the adaptability elasticity to explore and personalise the space in much the same way you would when using a physical space. Moving ‘beyond the board’ enabled ideas to flow and connections to be discovered, highlighting relationships between seemingly disconnected aspects of a subject. These organic activities prompted further materials to be quickly researched and posted onto the board within the sessions, promoting deeper exploration and understanding of the subject. Interestingly this approach extended to Project E. Whilst this project predominantly used Miro as a crit space the student groups, independently and unprompted, utilised the spaces to work together. Following the first crit some groups went 'beyond the board' to utilise the space around their presentations to create shared workspaces. Between this crit and the next, many of the groups established their own private co-working spaces in which to work - effectively taking control of the ‘studio’.

Figure 9. Organic growth of ideas and investigation

Another example of this emerging independence could be seen in the way in which students presented their work. In Project B students were not directed as to how this work was presented at crits, this encouraged a lot of experimentation. Whilst some students opted to produce presentation boards/slides and import them into Miro, others opted to use Miro to organise their research - taking advantage of the opportunity to create multimedia often non-linear presentations. The nature of the space ensured that these alternative approaches were shared to all students and could be adopted and remixed by other students in subsequent presentations. In many ways these approaches were more engaging, and by their nature invited interaction and re-organisation of their components, they created the capacity for narratives to be altered and amended. Indeed, a key aspect of the digital studio is that it afforded the opportunity for students to easily move work between boards. Visuals and feedback from tutorials and crits could be carried forward onto individual student work areas to enable them to reflect on and develop their thinking and practice.

Another interesting observation was that the digital space was particularly effective for interdisciplinary groups, like those in project E. One of the issues associated with the creation of strong studio cultures is that the strength of these cultures can in fact create barriers to collaboration. At the most basic level, when physical studio space is scarce, it can be difficult to enable multidisciplinary groups to meet within subject specific studios. Likewise, there can be power dynamics as to which studio students should meet in. The neutrality of the shared digital space proved very successful, with groups working better together than their peers had on the same project in previous years.

In addition to neutrality, part of this success was due again to the asynchronous nature of the studio and the degree to which this enabled groups to come together when it was convenient for them or indeed to enable individuals within the group to contribute to the group work asynchronously in a way that would not be possible within a physical studio environment.

Again, the asynchronous nature of the board was effective in enabling students the capacity to revisit and repeat activities in their own time. This also afforded students the opportunity to miss a class. Students who were absent from a workshop or class could review the work of their peers and complete the activity independently in their own time, which may not be within typical 9-5 studio hours. Whilst this might not be ideal for developing a community of practice, it does enable the student to take ownership of their individual learning journey creating a robust space for individuals, and individuality, to thrive.

Recommendations and Concluding Remarks

The reorientation to remote teaching over the past year has proven to be both challenging and compromising in the context of delivering studio-based education. However, it has also proven that through adversity comes new insights, and in our case, the adoption of Miro as an analog to the physical design studio has revealed new behaviours and opportunities. Considering the design studio as a signature pedagogy that provides mediating, sticky, social and habitual exchanges in supporting the delivery of design education, this study has identified mirroring characteristics within the digital studio environment that have potential to be utilised either where campus-based teaching is required to be delivered remotely or as part of a blended learning delivery.

Visualise the Process to Create a Mediated Social Space

The capacity to visualize design processes and dynamically navigate through projects within the digital Miro space has been transformative in supporting the delivery of remote teaching. Visualisation of design processes enabled the creation of digital scaffolds within which we were able to construct workshops, experiment with modes of thinking and index design methods. Visualising the whole project journey in an accessible digital space has positively impacted students' ability to use design methods and frameworks to support their development, and in the process generated a greater sense of awareness of their own learning journeys.

Foster Habit and Routine to Make it Communal

Students working both independently and collaboratively within burgeoning remote communities of practice reflect the social aspects of physical studio participation, drawn to a common place that holds attraction. Changing the nature of their engagement from sharing a screen to sharing a space has perhaps emerged through a growing sense of routine and habitual use, in line with Shulman’s (2005) identification that working out the rules of engagement creates the time, and confidence to experiment within the digital space. Similarly, the asynchronous use that is evident in several of the projects suggests that the flexibility to access and share content beyond taught lessons has emerged as a very positive mode of exchange not always afforded by physical studio environments.

Enable Autonomy and Ownership to Make it Sticky

Student autonomy, ownership and experimentation within the Miro spaces has developed over each project as their familiarity with the platform has grown.

Utilising the elasticity of the digital space and its ability to bring together different media into a shared, accessible environment mimics the use of physical studio space, wherein the arrangement and application of space is adaptable to the required need. Thus, creating the

liminal spaces for ideas sharing and discussion to develop as an environment for sticky exchanges between students, tutors and their subject.

Looking ahead, it is still unclear how our institutions will best utilise the learning and experiences that have emerged through this period of forced separation from campus. We will all welcome a return to campus life however it is clear that some pragmatic approaches to teaching, adopted through necessity, can hold lasting value beyond crisis modes of teaching. The sharing of knowledge, ideas, thoughts and exchanges within a digital format such as Miro does not tarnish over time as in a physical studio environment, they remain visible and accessible to be returned to by each student in their own time, supporting sticky learning in connecting the application of skills, knowledge and understanding across the curriculum. Building upon our experiences, the augmentation of physical and digital spaces to create symbiotic relationships between platforms such as Miro and physical studio environments will be an exciting next step in offering a truly optimised learning experience for the future.

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