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"Consideration of the online space as an 'expanded studio' is imperative to the development and enactment of creative and critical thinking."

Socially Distant Social Constructivism: Transitioning Visual Arts Pedagogies Online During COVID-19

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The COVID-19 pandemic, and the emergency pivot to online learning that this health crisis prompted, has inevitably impacted teaching and learning across all study disciplines in higher education. This article presents a case study conducted by tertiary visual arts educators who shifted their social constructivist teaching methods from the face-to-face classroom to the online setting during the first wave of the pandemic in Australia. In exploring the challenges and opportunities posed by this transition, this article outlines the affordances and limitations of the digital learning tools employed by the teaching staff within a pilot study. The success of this pilot was measured through data analytics, student surveys, and teacher observations and reflections. Based on the findings, the researchers propose several ways visual arts education can be adapted online, while still maintaining the integrity of the discipline and its concomitant pedagogies.

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I n his seminal article, "The Preface as Exegesis" (2002), Nigel Krauth suggested the role of the 21st-century artist is interactive rather than oracular, the function of art is essentially social, and "there is always correspondence to be entered into" (p. 65). Contemporary art prompts public discussion in its very capacity to (re-)present ideas that engage in social critique, while often being immersed within the social–cultural contexts and the consumer influence it is critiquing. This social function of art signals an important shift away from stereotypical romantic conceptions of artistic production, dismantling the artist as *sui generis* and calling into question the isolation and individuality of the natural "genius." As Maihoub (2015) asserted, art objects are "*live* social beings" that evolve across space and time (p. 1). Even the social nature of art criticism reminds us that the authority and legitimacy of criticism is always historically situated (Elkins & Newman, 2007; Wesseling, 2011).

Likewise, within higher education, artmaking itself is a social activity. Robyn Stewart (2003) treated creative practice not as an ineffable act, but as "a personal and professional expression of knowing" (p. 4). This double articulation allows practitioners to not only situate their work in broader socially embedded constructions of art, but also understand how arts knowledge is used to generate theory from practice and vice versa (Mäkelä, 2007). In this way, contemporary art practice in academia is about producing an applied visual narrative and accompanying dialogue (Mannay, 2016). This dialogue is both a creative and critical expression of knowing that is interrogated and enhanced by the artist's peers and mentors, as well as by the artist themselves. As Anderson and Morgan explained, "Visual artists openly and critically reflect on what they do and why they do it" (2013/2016, p. 220). Indeed, in the visual arts classroom, the embedded focus on peer critique and critical self-reflection, a major tenet of art education at undergraduate and postgraduate levels (Jochum, 2019), is central to the role and function of art practice. In short, artists do not exist in isolation, nor do they create in isolation. As jagodzinski (1997/2019) reminded us, "Art does not happen in a vacuum" (2019, Art Means Text section, para. 1).

Social Constructivism as a Visual Arts Pedagogy

As a consequence of the social and collaborative nature of the visual arts, the authors of this article, who are creative arts educators and artist–academics at the regional University of Southern Queensland in Toowoomba, Australia, posit that the foundational pedagogies of visual arts–based education are inherently imbricated with social constructivism. Social constructivism is an active and collaborative approach to learning that draws primarily from the work of social psychologist Lev Vygotsky (1978) and influenced by John Dewey (1916) and Jerome Bruner (1986). Historically, social constructivism gained traction in literacy education when educators recognized the shortcomings of information-processing models of learning

that treated learning as a passive or reactive process (Shute & Slee, 2015, p. 122). Grounded in cognitive and developmental psychology, social constructivism reacts against educational theories that suggest learning is an isolated process that occurs purely in the mind of the individual. It does so by acknowledging the importance of those with whom the learner interacts, primarily peers and educators. As Vygotsky (1978) explained, "Every function in the child's cultural development appears twice: first, on the social level and, later, on the individual level; first, *between* people (*interpsychological*) and then *inside* the child (*intrapsychological*)" (p. 57).

According to Vygotsky (1978), the individual's learning is inherently tied to their social, cultural, pedagogical, and experiential environment, along with the shared activities undertaken within the learning space. Akpan et al. (2020) suggested pedagogical strategies associated with social constructivism are those focused on "interaction, collaboration and group work," all of which are essential for "effective learning" (p. 49). Indeed, Vygotsky (1978) contended that "all the higher functions" of problem solving, reasoning, and communicating develop through social interaction and collaboration, thus originating in Vygotsky's words as "actual relations between human individuals" (p. 57).

Today, social constructivist pedagogy is widely practiced and extensively studied. Barak (2017) described social constructivism as a "prominent learning theory … [that has] provided the pedagogical framework for promoting meaningful usage of advanced technologies in the 21st century" (pp. 285–286). Similarly, Knapp (2019) identified social constructivism as the "most cited [pedagogical approach] in both educational and psychological circles today" (p. 87). While a popular pedagogical approach, Gulati (2008) made explicit the complexity of social constructivism in its application, stating that interactive forms of education can retain some traditional pedagogical practices and should not be assumed as being social constructivist. In more nuanced terms, social constructivism requires the change of several "habitual ways of thinking" (Gulati, 2008, p. 183) in education from a "world of facts to a world of symbols and models" that accounts for individual and social experiences (Larochelle & Bednarz, 1998, p. 7). As such, Gulati (2008) challenged pre-COVID-19 compulsory online pedagogy for its "limited appreciation of diverse learning preferences that is a central aspect of constructivism" (p. 183). The latter also highlighted social constructivism as potentially having varying spectra that are not in binary opposition to traditional educational practices, but as varying in their capacity to overlap and become a point of departure.

The adaptability and applicability of this pedagogical approach has, historically, seen it utilized in a myriad of disciplines, from the teaching of science (Barak, 2017) to mathematics (Rytilä, 2021), psychology (Knapp, 2019), digital literacy (Reynolds, 2016), and even medicine (Hennrikus et al., 2020). Certainly, the broad use, relevance, and value of social constructivism is demonstrated through contemporaneous study of the educational impact of subjects as diverse as digital storytelling (Abderrahim & Gutiérrez-Colón Plana, 2021), inclusive education (Jamero, 2019), and the decolonization of knowledge (Omodan & Tsotetsi, 2020).

There is comparatively little research on the use of social constructivism within visual arts education. However, research to date confirms the synergy between the social aspects of meaning-making and the positioning of both art educators and art students as collaborative agents. Buelow et al.'s (2018) case study of preservice visual arts educators employs social constructivism to understand how elementary arts teachers interpret and evaluate discipline literacies, drawing attention to "how powerful the social context is,

which then [becomes] the center of meaning" (p. 251). In another case study, Wright et al. (2017) explored the "shift in art praxis" (p. 1) achieved by an elementary school teacher when introduced to social constructivism, concluding that "engaging deeply with the meaning of quality visual arts education helped [the teacher] feel prepared and motivated to adopt an arts-based pedagogy in her classroom" (p. 16). Similarly, Pitri's (2006) exploration of situated learning in art education acknowledged that "a socioconstructivist perspective generally aims at empowering children through a process of negotiating their own learning with their peers and the environment" (p. 40). Likewise, Blagoeva et al. (2019) concluded, based on an after-school visual arts social constructivist program, that social knowledge sharing as an integrated art education approach can "enhance students' abilities to make associative connections between different subjects, to transfer their skills from one project to another, and to apply their knowledge from one subject area to another by processing visual or verbal information" (pp. 235–236). Thuketana and Westhof's (2018) study of "decisive" and "indecisive" preschool students adopted visual arts group work as a social constructivist strategy to demonstrate "the importance of collaborative learning to improve confidence and decision-making" (p. 1). Collectively, this research attests to alignment between social constructivism and visual arts practice-based pedagogies in early and middle education settings and the need to more deeply explore this approach.

Toward a Socially Distant Social Constructivism

Unsurprisingly, the COVID-19 pandemic dramatically changed the nature and shape of art encounters, transforming more traditional in-person engagements to virtual interactions or "disembodied" connections (Mandalaki & Daou, 2020, p. 228). Likewise, arts education was not immune to the pandemic. The widespread lockdowns instigated a more abstract crisis in the arts classroom: a shift away from the collaborative and communal nature of studio practice to artmaking in isolation as a means of adjusting to "the 'new normal'" (Gildersleeve et al., 2022, p. 7). Educators had little time to explore the affordances of educational technologies in relation to their capacity to facilitate established elements of the face-to-face classroom in an online and asynchronous environment. At times, this inadvertently replaced active, collaborative, and "hands-on" learning with what appeared to be more passive, isolated, unidirectional, or teaching-then-learning processes.

Thus, as regional arts educators teaching amid the pandemic, the authors of this article were emboldened to consider how social constructivist pedagogies could be transferred to an asynchronous online environment, while retaining both the integrity and impact of such methods. Turning to the literature, the researchers identified a number of social constructivist models of online learning, including the seminal community of inquiry framework, which has been used by educators for over 2 decades (Garrison et al., 2010). In addition, there is extensive literature on digital learning tools and spaces, and their various affordances and limitations. Significantly, there is also scholarship surrounding the experience of teaching visual arts online (see, e.g., Alter, 2014; Cooke & Bouché, 2017; Miiller & Smith, 2009), as well as established literature documenting the tensions between visual arts education and virtual learning (Delacruz, 2004; Wilks et al., 2012). As early as 2004, Delacruz considered the "unmet promise of technology" (p. 6) in art education, while Wilks et al. (2012) later scrutinized the "[un]easy partnership" (p. 54) between digital technology and the visual arts. Importantly, however, there was little literature that explored the synergies between arts education, social constructivism, and online learning.

Piloting Socially Distant Social Constructivism

In this context, the authors of this article conducted an exploratory case study that asked: How can visual arts educators exploit the affordances of digital platforms, such that the integrity of the discipline and its concomitant pedagogy are maintained? As an exploratory case study, although its outcomes may not be generalizable (Donmoyer, 2000; Roller & Lavrakas, 2015), it was deemed essential to the researchers' practice and relevant for others in the field. Its research question was necessary given not only the continued impact of COVID-19 on the higher education sector, but the expanding migration of traditional face-to-face classrooms to the online setting (Eisenhauer, 2013), and the growing use of digital technologies in contemporary art (Rusnack, 2012). Beyond this specific context, the authors acknowledge that this pilot study partakes in creative and critical discourses in contemporary online learning. These discourses are multifaceted, including Tavin et al.'s (2021) seminal work *Post-Digital, Post-Internet Art and Education* that makes explicit that the internet, along with other digital devices used for learning, comes along with its own set of practices providing contemporary social interactions as "entanglements … between objects, humans, algorithms, and other nonhuman actors" (p. 2). Therefore, the pilot study seeks to offer an online studio environment that is relatable to students within a broader contemporary art education discourse, while at the same time meeting the university's contextual needs. In their critical reframing of the studio as a site of online education, T. E. Lewis and P. B. Hyland (2022) noted "the question facing educators in an era of increasing e-learning concerns the type of space and time of education as it exists in the gap that separates and conjoins the virtual and actual, the material and the immaterial" (n.p.). As such, these gaps alter the very interaction, including processes of artmaking, critique, and reflection within social constructivist approaches.

In the first semester of 2021, the authors engaged in predominately qualitative social research (Priya, 2021) and applied Robert Yin's (2014) exploratory case study approach as a form of research strategy or design. This approach is based on empirical inquiry that places focus on a phenomenon with the aim of "exploring" innovative research questions that could be more extensively applied in subsequent studies (Priya, 2021; Yin, 2014). This methodology was most appropriate to this pilot because of its use of selected learning strategies and tools to transfer social constructivist visual arts pedagogies online.

The case study, and its piloting of several online learning tools, was part of the recent rollout of the online Bachelor of Visual Art program at the University of Southern Queensland. The focus course was VIS1010: 2D Studio Foundations. With a foundation-building emphasis on digital interventions across 2D art practices, the course is also available to Bachelor of Education (Secondary) and Bachelor of Creative Arts and Community Wellbeing students undertaking a Visual Arts major. It is an available elective course across the university that articulates as part of an approved minor in Visual Art Studio Practice, while being open to multiple career pathways. This course is also available for cross-institutional study via selected tertiary institutions and requires a prerequisite of students having internet access to StudyDesk, the University's Learning Management System (LMS), as per university-wide specifications. In the 1st-semester course offering, which spanned 13 weeks, there were 48 students enrolled, with 29 studying in the online mode, and 19 attending face-to-face workshops.

The case study included multiple means of data collection. Initially, educators' reflections identified key elements within face-to-face

studio practice with a focus on learning methods that were social or collaborative in nature. Then, working with the assistance of the University of Southern Queensland's Technology Demonstrator Special Initiative Grant, three learning tools were selected to potentially facilitate a commensurate experience for online students. These tools, which included Padlet, WordPress, and Zoom, were embedded within the StudyDesk in VIS1010. To monitor the pilot's progress, data were collected from course analytics, student feedback, and teacher observations. The course analytics were attained from the LMS and through WordPress and Padlet,[1] while students were formally surveyed through StudyDesk upon final assessment completion. At the end of the semester, teacher perceptions and reflections were collected to provide a qualitative assessment of the pilot and to identify implications for future online learning development in tertiary visual arts.

Social Constructivism in the Face-to-Face Visual Arts Classroom

When delivered on campus, the course included several instructional design elements that Buelow et al. (2018) regarded as key to social constructivist visual arts pedagogy. Three of these elements, which were identified in the initial stages of the pilot through teacher reflection, subsequently became the focus of the online adaptation. The first element, bidirectional feedback, focuses on content delivery that encourages both student-to-teacher feedback and teacher-to-student feedback (Kanchan & Singh, 2017). This two-way feedback process is deeply immersed in social constructivist learning and was designed to encourage knowledge co-construction rather than knowledge reproduction. The second element of design focuses on the use of iterative peer-to-peer feedback that is offered as a natural outcome of working independently within the collaborative studio environment. The final element, The Artist Studio, refers to the construction of a hybrid physical–virtual artist space that doubles as a learning site where students can develop their artwork as well as their emerging professional artist identities (Coward et al., 2015; Kivunja, 2014).

Element 1: Bidirectional Feedback

In the face-to-face classroom, educators often engage in multiple methods of active and demonstrative content delivery, allowing for the integration of both student-to-teacher feedback and teacher-to-student feedback (Palincsar, 2005). Importantly, this feedback is not only enacted by the learner, but it also allows the educator to modify instruction during the learning process. For instance, while providing feedback on a student's work in progress, the instructor might demonstrate, in response to a question, comment, or problem in practice, the technical skill or application required to achieve a desired outcome (such as drawing a two-point perspective or cutting into lino for print). These active and reactive feedback loops enable a social constructivist approach to learning, where learning is extended and enriched through the co-construction of knowledge and the creation of shared understanding (Kivunja, 2014).

Element 2: Peer-to-Peer Feedback

Peer-to-peer feedback is an important element of face-to-face studio work (Smith, 2021; Winstone & Carless, 2019). Within the studio environment, students are exposed to each other's works in progress and to their peers' creative processes and constraints. The studio, by its nature, offers a space where peer-to-peer feedback occurs naturally and spontaneously. As Sheridan explains, "In mid-process critiques … students see the decisions others have made, imagine how their own and others' works could be changed, and try to articulate these differences" (2020, p. 325). In the face-to-face studio, instructors

also encourage critical discussion and reflection by inviting students to speak to their practice and to offer constructive feedback on each other's work. For example, students might question concepts or provide recommendations for future practice, all of which can prompt self-criticism and improve unresolved work. Moreover, this form of knowledge sharing can remove the onus on the teacher to "teach" by fostering a collegial environment where cooperative learning is valued, and where classroom citizenship is characterized by shared responsibility, participatory decision making, and inclusive relationships (Maslowski et al., 2009).

Element 3: The Artist Studio

The final element of the face-to-face classroom that is essential for effective implementation of a visual arts social constructivist pedagogy is the facilitation of a collective studio space. Throughout history, the very notion of the studio itself has been inextricably linked to the production of art (Buren, 1979). When teaching in a tertiary context, it is important to construct the contemporary studio in accordance with industry expectations, which broadly demand a more active and communicative approach to practice. In turn, consideration of the online space as an "expanded studio" is imperative to the development and enactment of creative and critical thinking, as well as play, risk-taking, and experimentation—all of which are increasingly mediated by digital tools and approaches (Kárpáti et al., 2016; Orr & Shreeve, 2018). Sheridan (2020) noted,

> The social contexts for art learning have been in rapid expansion in recent decades, often intertwining with new technologies, and transforming studio arts learning and pedagogy. … The convergence of these new technologies for artistic production with domains more commonly associated with constructionist learning, such as computer

programming, create opportunities for more comprehensive accounts of learning. (p. 328)

Thus, given the centrality of the digital to the sociocultural landscape of contemporary art, and the importance of digital literacy in arts curricula (Orr & Shreeve, 2018), the concept of the hybrid studio, as both a place-based and "placeless" online space, is crucial to appreciating the transformative potential of the visual arts (Luger, 2016).

Designed, then, to enhance both student learning and the development of emerging artist identity, these instructional strategies embody tenants of social constructivism. Prior to COVID-19 and the necessary shift to online learning, these strategies were successfully "embodied" in the face-to-face classroom, creating an interesting tension for the emergency pivot to online learning, as prompted by the pandemic.

Reframing Visual Arts Pedagogies Online

To shift these instructional strategies or commensurate experiences online, the teaching team selected three digital tools. Padlet was selected to facilitate bidirectional feedback and peer-to-peer feedback, while WordPress was used to assist with the development of artist identity. Zoom was employed to create both a shared and individual studio environment. While each digital tool contributed to the online experience, it was the combination of these tools that allowed for the social constructivist pedagogy to be successfully transitioned to an online format (Wood, 2021).

Strategy 1: Padlet as a Tool for Bidirectional and Peer-to-Peer Feedback

Padlet is a visually dynamic, interactive, online tool that allows users to post images, videos, audio recordings, links, and text-based

material asynchronously. These posts can then be commented on or "liked" by others, mimicking popular social media platforms, such as Facebook and Instagram. Indeed, recent university studies strongly suggest that Padlet enables active social learning. For example, in her exploratory case study of students' perceptions of Padlet's impact on class engagement, Nadeem (2019) noted her results: "[The tool's] perceived effectiveness was mainly due to Padlet features that supported student collaboration, promoted students' agency, and helped in creating a positive learning atmosphere" (p. 72).

Similar sentiments are also expressed in Gill-Simmen's (2021) study of Padlet's use in an undergraduate marketing course, with the researcher noting that "Padlet … encouraged curiosity" (p. 7). Saepuloh and Salsabila (2020) also reported that Padlet's deployment in the tertiary classroom encouraged student creativity, while DeWitt and Koh (2020) suggested that Padlet enabled effective cohort building through positive interaction that can generate new knowledge. Thus, Padlet's visual and textual modalities work together to create a collaborative engagement tool (Frison & Tino, 2019; Rajiah, 2018) that supports visual arts communication and application.

With this in mind, the research team designed a class Padlet to function as a web of interconnected feedback loops that were sustainable at many levels: teacher-to-student and student-to-teacher, as well as peer-to-peer (Figure 1). At the peer level, Padlet allowed students to upload progressive iterations of their works in progress as images that were supported by critical reflection or commentary. This strategy provided a space where students could offer constructive feedback to their peers as they previously could in the face-to-face environment. The feedback naturally informed the students' subsequent practice and the next set of posts that students contributed, allowing Padlet to evolve as the works themselves developed. In short,

Padlet enabled asynchronous peer-to-peer feedback to be conducted effectively online in a tangible articulation of the feedback cycle and concomitant student learning. This feedback could be tailored by students to foster a sense of belonging, to showcase practical works at various stages of production, and to facilitate peer dialogue, ultimately producing a virtual and asynchronous social constructivist learning environment.

Another key to Padlet's success was educator engagement, which manifested as an iterative process, with educators initially modeling the process of posting their own works in progress. The staff "buy-in," combined with the instructors' willingness to share their own work for critique, encouraged students to engage in a similar fashion. Similarly, educators modeled feedback protocols. This feedback was not only integral to the development of course-specific knowledge and skills, but a means to developing more widespread collaborative engagement within the Padlet itself. Moreover, instructors were able to review students' creative and critical contributions to the Padlet as a means of checking for understanding, subsequently allowing staff to tailor the pace and focus of future lessons to cater to student needs. Importantly, this practice emphasized learning and teaching as a form of participatory exchange (Jones, 2015), promoting a collaborative skills-based model of learning.

A quantitative evaluation of the pilot implementation of Padlet demonstrated its success in enhancing student engagement through both bidirectional and peer-to-peer feedback. Student use of the platform began early in the course, with the process appearing to be intuitive and reliant on behaviors established in prior use of social media. Across the 13-week semester, engagement with Padlet steadily increased. The virtual wall received 319 posts in total, with 403 written comments on these posts and 1,164 reactions. These figures represented, on average, 57

engagements per student. For comparison, in the previous iteration of equivalent courses, an online forum in the LMS was used to promote peer-to-peer discussion and feedback. This forum received 0.05 engagements per student across the same semester. Student survey data also revealed that 80% of respondents either "agreed" or "strongly agreed" that Padlet allowed them to connect with their peers and instructors in a way that fostered their sense of belonging. Padlet was thus embraced by students as an authentic opportunity to provide and receive online feedback.

Strategy 2: WordPress as a Tool for Artist Identity Formation

Students used WordPress to create artist websites (Figure 2). WordPress is an example of a content management system that can enable the development of a visual portfolio to support digital literacy, employability outcomes, and both peer and industry connectivity, allowing students to become "self-reflective, critically engaged, lifelong learners" (Watty & McKay, 2015, p. 194). The pedagogical potential of e-portfolios to support and enhance learning has been explored in educational research (L. Lewis, 2017; Watty & McKay, 2015), with Deneen et al. (2018) affirming that "eportfolios are of great interest in higher education … because of presumed benefits to teaching, learning, assessment, and curricula" (p. 487). Rico (2017) also identified an increase in the use of e-portfolios in higher education disciplines "where student-centred methodologies are key" (p. 79). Aligning the tool with social constructivist learning, Rico (2017) further posited that e-portfolios are directly aligned with social constructivist principles by positioning learning as a dynamic process where outcomes and procedures are subject to ongoing monitoring and review. L. Lewis (2017) agreed that e-portfolio is a social pedagogical tool that "engag[es] users in iterative cycles of creating,

reflecting, seeking feedback, [and] reviewing" (p. 73). Thus, while the affordances of WordPress portfolios do allow for the generation of static repositories of collated images and documents, they additionally allow for reflection, asynchronous feedback, and collaboration. It was the potential for the latter that was the focus of their use within this pilot study, with these elements replicating the bidirectional and iterative feedback of the face-to-face classroom.

The embedding of WordPress in the foundational course was intended for longitudinal development through its subsequent use in the study of eight practice-based art courses over the duration of the 3-year undergraduate degree. Watty and McKay's (2015) study of the affordances of the e-portfolio as an educational resource confirmed that WordPress has "the potential to integrate learning across a series of units/subjects over an extended period of time in a single repository," thus providing students with the opportunity to present "innovative, technology-based ways of evidencing their learning outcomes" (p. 198). Importantly, Watty and McKay further postulated that as an identity development tool, WordPress allows for self-representation, "the nuances of crafting an identity for a particular audience" (2015, p. 200). At the start of semester, and in the early stages of website development, students were invited to photograph their semester's resolved work and share these images on their WordPress site alongside explanatory text that expounded the work's impetus or inspiration, as well as the artist's process or intention. Some students additionally opted to utilize the blogging tool to further capture and disseminate the conceptual and process-based narrative behind their work. In doing so, these students humanized their arts practice, opening up communication in the digital artscape, and using WordPress as an intermediary tool to bridge feedback offered through the use of
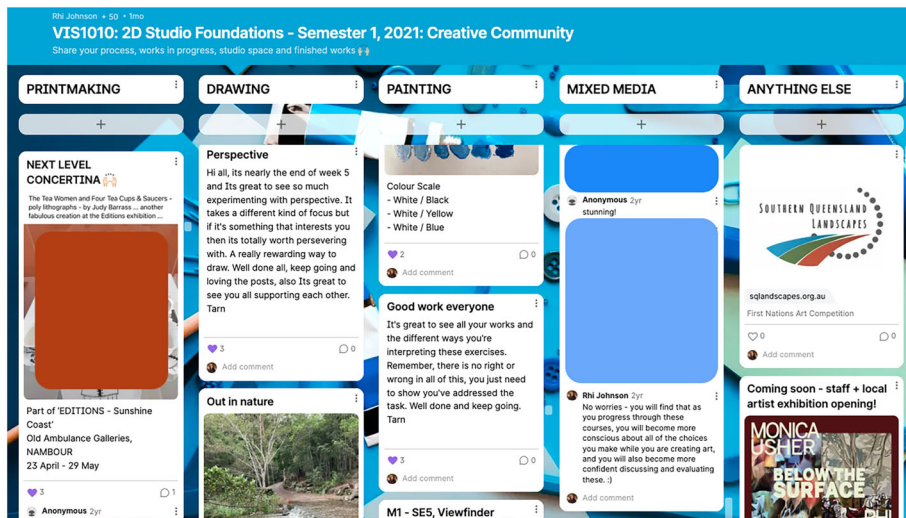
Figure 1. Padlet design for VIS1010: 2D Studio Foundations.

Padlet to a public space where artwork could be published and critiqued (Kivunja, 2014).

By virtual means, WordPress positioned students as emerging artists operating in dialogue with each other and with tradition, rather than working in isolation or seclusion. Through their sites, students invited others into their "virtual" studios. Additionally, by sharing reflective practice on their sites and welcoming feedback, online students still received the iterative and bidirectional feedback underpinning face-to-face classes. Importantly, the WordPress portfolios invited students to sustain this approach into their careers as emerging artists. As the WordPress pilot is part of a longitudinal study, it is difficult to evaluate its overall success as a tool for transitioning social constructivist pedagogy online. However, early indications are positive. Preliminary data gathered from the end-of-semester student survey (2021) indicates that 100% of respondents ($n = 13$) either

"agree" or "strongly agree" that having an artist website is an asset to their future career. As one student reports, "I am so glad I have created [the website,] as it is such a great resource. It actually made me take photos [of] my work and is a great record of my practice."

Strategy 3: Zoom as a Studio Interaction Tool

The final learning tool that was selected to capitalize on the social aspect of online learning was Zoom, which facilitates live and recorded classes through the software's video-conferencing and messaging capabilities. As a video platform, Zoom has been widely adopted in higher education, particularly with widespread lockdowns necessitating a rapid pivot to online learning during the pandemic (Memiş, 2021; Piotrowski, 2021). While Zoom and similar technologies enable synchronous yet remote communication, educators are still faced with the challenge of how to support
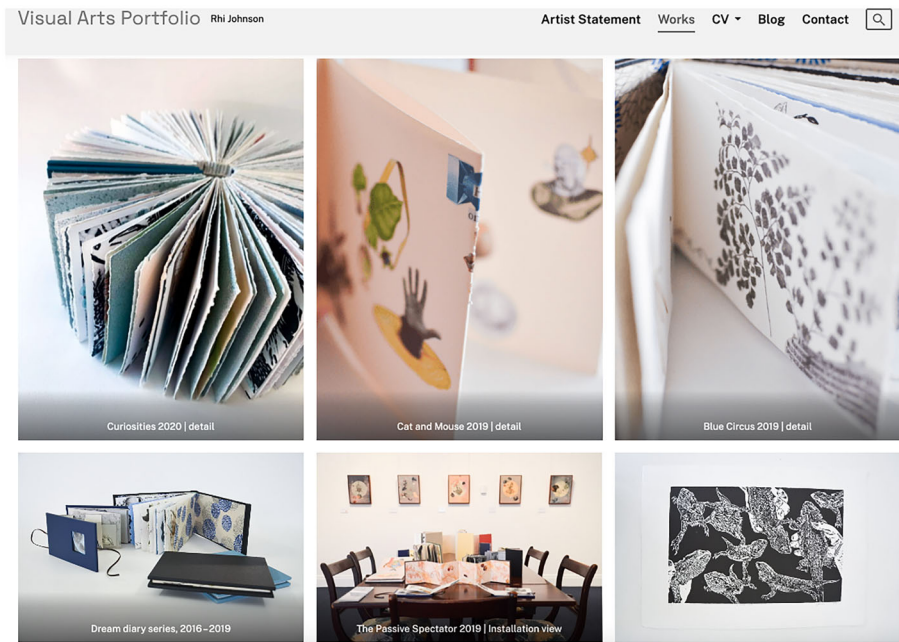
Figure 2. WordPress portfolio exemplar for VIS1010: 2D Studio Foundations.

authentic and meaningful learning in the online environment without simply attempting to replicate or replace face-to-face learning. Piotrowski highlighted the importance of employing "principles of varied repetition, accessibility, and interactivity … to create a meaningful classroom experience" (2021, p. 142), while Tran and Nguyen (2021) foregrounded the necessity of providing genuine opportunities for both peer and instructor interaction. In both instances, active engagement, as facilitated by social interaction, is paramount if instructors are to overcome "the deficit interaction" in online learning (Tran & Nguyen, 2021, p. 45) and foster instead "cognitive presence" in the online environment (Paechter & Maier, 2010, p. 293).

Throughout the course, Zoom was regularly utilized to enable synchronous discussion and to establish a sense of community through open communication, mutual socioemotional support, and affective connectedness (Paechter & Maier, 2010; Tran & Nguyen, 2021). Similar to a flipped learning approach, instructors hosted a weekly Zoom tutorial to consolidate the information conveyed in prerecorded lectures and demonstration videos, and to afford students a "safe space" to discuss ideas, exchange information, and seek formative feedback. While the teaching staff initially observed that some students were reluctant to engage in the online class, participation gradually improved, as was the case for student engagement with the class Padlet. Notably, as the Padlet developed,

educators could exploit Zoom's screen-sharing function to showcase visual content on Padlet as a catalyst for class discussion. In doing so, students were again encouraged to deliver constructive feedback to peers, and educators guided active and reactive learning in real time. Here, the same method of interactivity employed in the face-to-face setting was implemented in the virtual classroom, which established a collegial environment where students shared common goals, tools, and practices.

Additionally, the private-yet-public nature of Zoom enabled educators to reconstruct and challenge broadly held notions of the studio and its overarching role within arts production. While the studio, then, has long been regarded as a site for creative art production, Hoffmann (2012) suggested we need to recognize "the expanded concept of the studio," by which he means that we must acknowledge how studios house myriad functions as "social and professional spaces where artists meet with curators, other artists, collaborators, dealers, and collectors" (p. 13).

Thus, in VIS1010, educators used Zoom as a virtual space that enabled students to redefine their "home" studios as public spaces, and thus spaces of collaborative engagement. Indeed, Blackaller (2008) affirmed "the interactive potential of the digital medium is infinitely richer than any other medium," and this "has pushed cultural artifacts towards forms defined by interaction, participation, and social systems" (pp. 3, 22). By using Zoom in conjunction with Padlet and WordPress, educators were able to foster the development of a connected studio mindset that draws on the studio as physical space for making but extends this further in terms of dialogic professional practice through the hybrid physical–virtual space. Relyea (2010) noted, for example, that

> the studio is now that place where we
> know we can always find the artist
> when we need to, where she or he is

always plugged in and online, always accessible to and by an ever more integrated and more dispersed art world. (p. 349)

In VIS1010, students demonstrated growing competencies in connected practice, as evidenced by increased and meaningful practice sharing enabled via Zoom, throughout the course of study.

At the end of semester, the use of Zoom culminated in a synchronous sharing and feedback session in the final teaching week. The last class of the semester was a virtual salon in which students across both modes of study were invited to share two artworks made during the semester: one that students felt proud of, and one they considered a "mistake" or a "learning opportunity." The latter could be, for example, a resolved work that did not meet the artist's expectations, or a work that the artist would approach differently next time around. To model critical reflection, as well as the communication of key concepts and ideas, educators were also tasked with presenting their own works under the given brief. Attendance at the salon was high, and the collective response from the cohort was positive. Educators noticed students were keen to engage in the peer-critique process. Students were articulate in describing their ideas and processes, and they were generous in their feedback. The teaching team also observed that when called on, students were responsive and eager to deliver feedback. In this way, students actively contributed to their learning, both as individuals and as a creative collective.

Moving From Pilot to Practice

This case study sought to identify if visual arts social constructivist pedagogies could be transitioned online, while at the same time retaining their integrity and impact. Three tools and their specific affordances were

piloted as part of this undertaking. Each of these tools demonstrated initial success in promoting both peer-to-peer and teacher-to-student feedback, as well as the consideration of the artist's studio as an expanded field. As these three elements were initially deemed core to social constructivist pedagogies within the face-to-face studio environment, their transference online suggests the capacity of these tools to foster commensurate learning experiences for visual arts students studying online and asynchronously.

The outcomes of the pilot, however, go beyond the success of individual tools and their capacity to transition elements of visual arts social constructivist pedagogies online. Upon reflection, the combination of these tools extends beyond conventional social constructivism to a sustainable form of online interaction. The cyclic feedback process supports the development of works from concept development to work in progress, and then to work resolution and reflection. It merges educational and professional industry requirements of an artist, including digital skills, and thus supports students' learning and engagement across the full length of a semester. LMS data analytics speak to the success of this cyclic feedback loop, and the combined use of Padlet, WordPress, and Zoom revealed greater engagement in the course overall. It is worth noting that in the year prior to the pilot, there was an average of 265 clicks on StudyDesk per student throughout the semester. During the pilot's implementation, the average was over double this, at 588 clicks per student. Although there are many variables to consider in interpreting these data, the doubling of student engagement, as measured by clicks within the LMS, is tacit confirmation of the education technologies chosen within the pilot approach and the capacity of these tools to work in conjunction to fulfill social constructivist teaching methods online. In turn, the pilot, via its very use of this combination of digital tools, can contribute to a reframing

of visual arts online pedagogy by informing how the potential integration of industry requirements can assist in professional artist identity formation (Buffington, 2007, pp. 210–211) within a COVID-19 context. With student learning engaging in industry, and student works being founded on their personal life narratives, the pilot study provides an example of an approach in which transformational online learning can be enabled via what Woo and Reeves (2007, p. 15) referred to as impactful interaction resulting in a meaningful learner-based experience. Engaging students in meaningful, life-scenario learning within the pilot study can potentially contribute toward further expanding and redefining social constructivism in the visual arts. The pilot study therefore negates more general concerns regarding social constructivist education as "increasing conformity to tutor-defined process" rather than enabling learner individuality and a broader decentralization of learning itself (Gulati, 2008, p. 184).

Importantly, this pilot has changed not only the way the researchers teach online, but how they teach within the studio environment. The tools trialed within this pilot have continued to be used within the researchers' visual arts courses. In a postpivot world, as educators begin to turn back to established ways of working, they remain entrenched in hybrid learning and living environments that can lead to transformational educational experiences that have broader benefits within the field of arts education. That is, the social implications and efficacy of these digital tools within arts education can foster an inclusive and accessible online learning environment. This is demonstrated within our regional university pilot study, which encompasses geographically diverse student cohorts, including those from rural and remote regions, as well as students coming from various discipline backgrounds. Broader benefits also include more transformative and interconnected online and on-campus classroom learning that

enables knowledge development with peer-based exchanges of ideas and critical feedback that is industry immersed. Such dialogue enables an inclusive and often interdisciplinary professional creative identity/ies formation within its broader educational development of critical and creative thinking across diverse arts contexts and approaches. This can be supported by the way the pilot has reshaped how face-to-face courses are taught by artist–academics, with online learning tools and their social constructivist affordances now used to broaden the individual's potential to thoughtfully provide, and gracefully receive, peer feedback, and to develop stronger connections between cohorts.

A key impact of this pilot study has been the broader adoption of these digital tools within our university's School of Creative Arts core courses, including the use of Padlet in music and drama programs, and WordPress in drama. Beyond this, it is suggested that the informed combination of digital tools and platforms with social constructivist affordances can be applied within preK–12, particularly in the online space of professional artist skill development, leading to a more empowered and inclusive understanding of peer development in artistic practice(s) and enhancing the learner's preparedness as an emerging artist and/or their potential transition into tertiary study. As this is a pilot study, the researchers are now seeking to explore the potential of other online learning tools within hybrid and hyflex learning environments, with a specific focus on those with affordances that align with the core principles of social constructivism.

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ENDNOTE

[1] As there was no historical data available for VIS1010, course analytics were compared to available data for commensurate courses.