Integration of Theory and Practice in Design Education as a Facilitator for Bringing Environmental Issues into the Curriculum

ABBIE VICKRESS &
SAKIS KYRATZIS

INTRODUCTION

Education has an important role to play in raising awareness and suggesting responses to the environmental crisis, not to mention in assuming its own responsibility. Papanek (1971) early on pointed out how designers and design education are contributing to the environmental crisis. Since then, many design programmes, especially in product design and architecture, have incorporated environmental concerns in their curriculum (Bras, 1997; Walker & Nielsen, 1998; Giard & Schneiderman, 2017). Unfortunately, Benson's (2007) prediction that "teaching sustainability [...] will soon become a necessary component to each and every graphic design academic unit, and eventually, such teaching methods will completely change the way we design the objects in our world" did not materialise and graphic design degrees are lagging in addressing sustainability in their curricula. It is through programmes like Plastic Justice—generating teaching guidelines and policies—that we can implement curriculum change in communication design degrees. This chapter puts forward a suggestion of how this can be done. Its main argument is that true integration of theory and practice in any design programme can create a platform that facilitates the discussion and exploration through thinking and making of issues of social responsibility, one of which is sustainability.

A short overview of what theory means and how it is addressed in design curricula shows that its position is problematic (Kill, 2006; Apps & Mamchur, 2009). Especially in the UK, most design degrees at university level have been developed from vocational training that focused on (and valued) technical skills. As a result, theory is seen as a secondary and perhaps unnecessary element of the degree. Connected to this, not all teaching staff feel equipped to teach and evaluate theoretical skills. This results in an inherent (and latent) anti-intellectualism in some design programmes where training for employability is seen as the main objective. As a result, theory teaching is usually done outside the studio.

Moreover, what theory is for the graphic design curriculum remains largely undefined, and it is also associated almost solely with essays as the means of assessment.

Connected to this is the overall perception that students who choose visual programmes prioritise practical methods in their learning. This means that most current design education assumes a particular learner that is kinaesthetic (for instance, McCauley & Roxburgh, 2017, p. 174, suppose that design students have a "predilection for learning by doing") and uses this as the reason for keeping theory away from the studio, since it is believed that thinking and writing disadvantages such students (these are seen as different processes from making; see, for instance, Orr & Blythman, 2002; Gelmez & Bagli, 2018). Even in universities like University of the Arts London (UAL), where there is a drive to integrate theory and practice across all subjects, this is interpreted differently in all its colleges. Some, like London College of Communication (LCC), have an independent theory unit that services several degrees and disciplines; other colleges, like Central Saint Martins (CSM) and Camberwell, Chelsea, Wimbledon (CCW), encourage each programme to move away from a curriculum structure with discrete theoretical strands and to incorporate theory in each unit or module. Even now, however, there is talk of theory-heavy and design-heavy units, so integration of the two is not yet complete. This results in students not appreciating how contextual discussions can enrich their work. Consequently, introducing environmental issues into the curriculum becomes particularly difficult, because their complexity and cross-disciplinary nature depend on a contextual elaboration.

We are more in line with Cross (2001, p. 5), who argues for design to "develop domain-independent approaches to theory and research" connected to what he calls 'designerly' ways of knowing. This moves theory away from its meaning-laden past, since it creates a version that belongs solely to design. This in turn allows for what Strickler (1998, p. 38) calls an "empirical bridge between theory and practice" and the development of communication design as an independent discipline (rather than a vocation). In such an environment, it becomes easier to explore and develop the social consciousness of the graphic design student. As Vessella and McKay (2011, p. 473) have shown, it is only within a design degree that has social responsibility at the core of its

curriculum that students realise that "designers' decisions have an impact on the planet, and understanding that impact and accepting responsibility for one's actions contributes to the moral and ethical condition of the educated professional. This pedagogy informs the students that civic engagement has come to embrace principles of sustainability as well as social justice." Such discussions and realisations can only happen effectively within the studio, which then becomes the place of both theoretical and technical exploration, where one informs the other. In addition, students are given the opportunity to explore their own personal values within the curriculum and to connect them with wider political issues, thus giving their work social purpose and intent (such an approach has been applied successfully by Benson and Napier (2012).

If theory is expelled from the studio, then so is sustainability: without a contextual and theoretical understanding of a design problem, we argue, studio practice becomes limited to form-making. Surveys of how design degrees address environmental issues (mainly in the United States; see, for instance, Benson, 2007; Benson & Napier, 2012; Giard & Schneiderman, 2017) show that sustainability is still not integrated in the curriculum. Students either have to enrol in units taught on a separate degree or choose incidental units within their degree that simply include briefs that address environmental issues (the brief that we discuss below belongs in this latter category). Moreover, just like theory, there is no clear agreement on what sustainability means within a design degree. The usual approach for graphic design programmes is to consider the life cycle of materials used, primarily paper and ink (Benson, 2007). Simply recycling materials in the studio may be a good start, but as McDonough and Braungart (2002) have convincingly shown, we need to move away from recycling as a panacea for sustainability. When it comes to design education, we agree with Giard and Schneiderman's (2017, p. 172) conclusion that sustainability needs to be considered as a "prime and fundamental factor in design education, much like less-is-more became a prime factor at the Bauhaus. In such a scenario, sustainability will need to be integrated throughout

the design curriculum and embedded at every level." In what follows, we present the *Classroom* brief as a good example of how theory and practice in the studio can facilitate students to explore their own values in relation to their practice. This primes them for socially responsible design and outcomes that are sustainable (apart from socially just, inclusive, etc.). We also make a case that briefs like this, which question (design) education itself and how it (dis)advantages certain learning styles (Fleming & Mills, 1992; Honey & Mumford, 1992), lead the way for a more inclusive design curriculum based on true integration of theory and practice in the studio.

METHODS & CASE STUDIES

Classroom is an Experience and Environment brief on the CSM Graphic Communication Design BA at UAL. Positioned alongside *Museum* and *Archive*, these briefs were designed to encourage students to use theory and practice to critique and challenge dominant conventions within cultural institutions. The 'environment' label of this elective study platform is somewhat self-explanatory; however, the 'experience' label is inspired by the definition from the author of *Brave New World*, Aldous Huxley: "Experience is not what happens to you. It's what you do with what happens to you" (cited in Kegan, 1994, p. 11).

Classroom encourages the use of graphic communication design tools to interrogate the educational contexts from which students have come and where they are currently, making connections and comparisons to institutional education and activism. The students are then prompted to collectively critique and redesign their classroom for the project duration. As Illich (1973, p. 11) advocates, "People need not only to obtain things, they need above all the freedom to make things among which they can live, to give shape to them according to their own tastes, and to put them to use in caring for and about others," including the way in which people are educated.

Experimental in nature, the brief redesigns itself every year. In 2020 the *Classroom* brief joined forces with the Plastic Justice project and became *The Climate Classroom*. Regardless of each iteration, there are always three consistent threads to the project: contribute something to the 'rule-book' in which the learning environment is informed; learn something new through graphic communication design methods; and teach something new through graphic communication design methods. In addition to this, each year there are five factors embedded within this brief that champion the integration of theory and practice as a means for student agency, bringing social responsibility into the studio environment.

FACTOR 01: VISIBILITY OF THE COLLABORATION

At CSM we have capacity to host a 'theory tutor' and 'practice tutor' (as per our job descriptions) within the same classroom, during the same session. This immediately highlights to students how these binary definitions are somewhat problematic in both a design and educational context. The theory tutor has a practice, and the practice tutor uses theory. By inhabiting a physical space collaboratively, the tutors enable students to witness both how theory and practice thrive off one another in social responsibility-based dialogue, and how the two are inexplicitly linked regardless of curricula structures. The importance of being in a physical space and viewing a collaboration taking place in a shared environment was only exaggerated when limited access to physical spaces became an issue during pandemic lockdowns.

As educators, we are aware that this relationship between theory and practice is a form of generative design research, an iterative design process that requires continuous reflection and development. Sanders and Stappers (2014, p. 8) state that "generative design research gives people a language with which they can express their ideas and dreams for future experience. These ideas and dreams can, in turn, inform and inspire other stakeholders in the design and development process," suggesting that this collaboration will not only help educators and students, but hopefully also the system in which education is situated in UK HE (Higher Education).

FACTOR 02:
OPEN BRIEF

The second factor, and perhaps one of the most important, is that this brief is open. By this we mean that students use their own experiences to research theories and inform definitions, which in turn determine a relevant format for their work. This relevance comes both from the theory and content, but also from who they are as a person and practitioner. As a result, outcomes frequently fall into an expanded definition of graphic communication design, another way in which students are encouraged to challenge dominant conventions. In 2020, outcomes included publications, animations, and information graphics on topics including the creation of bioplastics, darning for repair, and how to grow your own mushrooms. This open brief is designed to support Freire's (1970, p. 75) discrediting of the banking concept in education—the oppressive 'depositing' of information by teachers to their students—and to strengthen its connection to critical pedagogy as well as social justice education.

"Implicit in the banking concept is the assumption of a dichotomy between human beings and the world: a person is merely in the world, not with the world or with others; the individual is a spectator, not re-creator. In this view the person is not a conscious being (*corpo consciente*); [they are] rather the possessor of a consciousness: an empty 'mind' passively open to the reception of deposits of reality from the world outside" (Freire, 1970, p. 75).

For educators, an open brief is an essential tool to take stock of what students are bringing to the classroom, enabling us to facilitate a learning environment in which students can continue to build on their previous experiences, and, as Sanders and Stappers (2014, p. 15) argue, "People are particularly creative with regard to experiences that they are passionate about, such as living, playing, learning and working." And with this agency, an understanding of their role in social responsibility, such as climate justice, begins to grow.

FACTOR 03:
MAKING CONNECTIONS

Embedding theory in a practice-based unit has consequences well beyond the project deadline. Manzini's *Dialogical Design and Design Culture* (2016) expands on the knowledge, values, and visions that emerge from student conversations occurring during design activities, and the conversations that take place in various design arenas during and following project completion. In line with Brown's (2005, pp. 119–139) theory of the Shadow Curriculum, students create projects and generate knowledge not required from the brief, often highlighting alternative ways to learn from their own education and apply this to future scenarios. For example, students involved in the 2020 edition of the brief have gone on to contribute important work for UAL's Climate Emergency Network, spoken at conferences such as *Entangled Futures*, have collaborated with CSM's print department on sustainable print and production, created catalogues to showcase others working in the field of environmental justice, designed accessible information graphics that deal with the immense scale of the issues of microplastics, and independently exhibited a series of speculative science-fiction scenarios where plastic was not invented, as a means to challenge the way in which others use material in their work. These opportunities for extensive discussion reiterate that, before being a technique, graphic communication design is a capacity for critical analysis and reflection (Manzini, 2016).

FACTOR 04:
DIALOGICAL PEDAGOGY

Students are prompted to critically interrogate sub-themes of climate justice in the brief, express and listen to multiple voices and points of view, and create respectful and equitable classroom relations. It is important that students understand that they themselves, and their projects, form a multiplicity of less complex, smaller-scale sub-issues than the climate emergency, a wicked problem defined by Rittel and Webber (1973) as "difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognise. Moreover, because of complex

interdependencies, the effort to solve one aspect of a wicked problem may reveal or create other problems."

Like all wicked problems, it is important to acknowledge the complexity of the world, and "rather than trying to control complexity through top-down command-and-control hierarchies," writes Green (2013), "social innovation shows us how to embrace complexity." The students achieve something bigger than themselves through conversations and collaborations within this brief and by spreading the complexity over the various nodes in the system (i.e., various students and projects in the class). "Likewise, given its origins and nature, design culture is not a single unit; in fact, we should speak of it as a plural entity that includes as many different cultures as there are arenas in which the question of design is investigated and discussed" (Manzini, 2016).

FACTOR 05: STUDENT VOICE

It is important to acknowledge that this brief is positioned within an institutional context which has ramifications on a complete sense of freedom in the classroom. Framing the student as an individual, as opposed to part of a university agenda, is not a new concept, albeit arguably rare in mainstream education. *Classroom* focuses on learning how to learn, encouraging students to realise what their framework is through theory and practice, and not impose it on them with the structure or requirements of a brief. "If real learning, as I call it, involves a disruption of established states of pedagogical knowledge and practice through which learners are recognized but through which such recognition may also be constricting, then a pedagogy commensurate with such disruption is required, a pedagogy which I call pedagogy against the state, or perhaps, pedagogy of the event, in order to expand our grasp of what it is to learn and lead to the possibility of forming new and more effective learning communities" (Atkinson, 2006, pp. 16–27).

WORKSHOP CASE STUDY 1: IKEA FLATPACK FURNITURE

IKEA Flatpack Furniture is an example of a *Classroom* studio workshop using theory and practice. Students are sorted into learning groups via a VARK questionnaire (Fleming & Mills, 1992) and set about assembling flatpack furniture in their questionnaire groups: visual learners, aural learners, reading and writing learners, and kinaesthetic learners. On completion, students are asked to discuss their experiences of the collaboration and are shown documentary images of the activity taking place, thus revealing certain ways of thinking and making they may not have previously acknowledged.

As Whitehead (1967, pp. 91–101) states, "The task of a university is to weld together imagination and experience." So although this may seem a somewhat arbitrary exercise, the conversation that follows is what is most fruitful, resulting in learning that goes well beyond the brief requirements. It gives the students an opportunity to discuss their education biographies in relation to their learning styles. This discussion, together with the observations from the activity, is a true moment of realisation for many as to why they have previously felt disadvantaged in education. This leads to a questioning of education itself, including a critique of briefs that assume the students they are addressing are primarily kinaesthetic, as we mentioned in the introduction.

Please note, VARK is one of many learning style theories that exist, and we would highly recommend you complete this exercise in multiple ways to prompt a variety of different conversations, amending groups according to the learning style of choice.

FLATPACK FURNITURE

You will need: four pieces of identical IKEA flatpack furniture, tools for assembly, and a means to document the workshop (a camera is recommended).

1. Begin by asking students to complete the following questionnaire: https://vark-learn.com/the-vark-questionnaire/
   Sort the students into groups based on their learning style results.
2. If multimodal, ask students to use their highest score or own preference to determine which group they will join.
3. Give the students a set time frame to assemble the furniture.
4. Document the assembly process and do not intervene.
5. Once the time is up, ask each group to reflect on how they worked together.
6. How did they organise themselves? Where did they sit/stand? Did they use instructions? Did they speak? Etc.
7. Show the students the documented images and prompt them to identify physical patterns in their behaviour.
8. Finally, discuss as a group whether the students were aware of this working process, and how this may have helped/hindered them in previous creative projects.
9. Finally, ask the students to give a brief overview of their education biography. What were their previous educational experiences like? Do they align or misalign from discoveries made during this exercise?

WORKSHOP CASE STUDY 2:
USER MAKER

***User Maker* is an example of a *Classroom* studio workshop using theory and practice. Students are asked to generate a prototype of their project—the term prototype being up for debate—and use intensive communication/speculative prompts to foster community relations and dialogical pedagogy in the classroom; a collaborative effort. Sanders and Stappers (2014, pp. 17–18) suggest that "prototypes made during the traditional design process represent objects as possible products... the languages that designers learn in school are specialised for the creation of such objects. For example [...] sketches, drawings, prototypes, and models of objects, often in isolation [...].**

Some alternative embodiments for describing and enacting experience that are being explored today include stories, future scenarios, narratives, performance art, documentaries, and timelines of experience."

Students are paired up and asked to take the role of User (person interacting with the prototype) and Maker (person who created the prototype) and then swap, and repeat. Once complete, the students re-pair and complete another *User Maker* prompt with the same instructions. The list below features examples which can be amended depending on the nature of the project brief.

1. **User**, interact with the prototype.
   What does it 'do'? Does it 'work'? Is it 'finished'? What else needs to be done?
   Maker, no speaking. Make notes.
2. **User,** describe, out loud, what you are doing/thinking whilst you interact with the prototype—a user experience monologue.
   Maker, no speaking. Make notes.
3. **User,** describe the design decisions you see.
   What do they communicate? Are they 'appropriate'? To whom? How would you redesign this prototype?
   Maker, no speaking. Make notes.
4. **User,** describe the content.
   Is it interesting? Does it make sense? Does it align or challenge your own views? What would you add? What would you remove?
   Maker, no speaking. Make notes.
5. **User,** if the prototype featured in a story, what would its role be? What would the narrative be? Who would be the characters interacting with it?
   Maker, no speaking. Make notes.
6. **User,** if this prototype could be articulated through a physical gesture, what would that be?
   Maker, no speaking. Make notes.
7. **User,** how long would this prototype last in the hands of school children? Animals? Doctors? Builders? Parents? Exhibition visitors? Archivists? Etc.
   Maker, no speaking. Make notes.

8. **User,** what will happen to this prototype in 1 year? 10 years? 100 years?
   Maker, no speaking. Make notes.
9. **Maker,** present your project.
   User, the only question you can ask is 'Why?', but you can ask it as many times as you want.
   Feel free to interrupt the Maker at any point to ask why they have made a design decision.
   (The more interruptions the better!)

CONCLUSION

In what we have described above, we have shown that a true integration of theory and practice in the studio can create a platform that facilitates the introduction of elements of socially responsible design through student agency. For this to happen, we need to abandon models where theory and practice are taught separately in design education. As Manzini (2016) points out, echoing Walker & Nielsen's (1998) pedagogical proposal, such models related to a time where design education was training the 'expert' to produce specific 'products for serial production'. These days, Manzini goes on, "the focus of design has shifted away from 'objects' (meaning products, services, and systems) and toward 'ways of thinking and doing' (meaning methods, tools, approaches, and, as we will see, design cultures). In undergoing this shift, design becomes a means to tackle widely differing issues, adopting a human-centred approach: It shifts from traditional, product-oriented design processes to a process for designing solutions to complex and often intractable social, environmental, and even political problems." While Manzini's position implies a shift from outcomes to human-centred processes, ours also takes into account critical pedagogy and co-design (e.g., destabilising the tendency of designers to imagine a saviour role, or hands-off, lofty position as creative practitioner). This is why we are advocating for theory and practice to be used to address and discuss social responsibility in every design brief.

The five factors we described here can act as a blueprint for any design brief that merges theory and practice, but also for a curriculum that places social responsibility at its centre. The relationship between theory and practice can be used as a tool, both to empower your students and organically bring climate justice into the core of education. It is time for communication design to follow a more pedagogical model for sustainable design, moving away from outcomes and exploring wicked problems through a multiplicity of ideas, and through context and consequences.

Biographies

Abbie Vickress is associate lecturer MA Graphic Communication Design at CSM University of the Arts London

Sakis Kyratzis is senior lecturer in graphic design communication at CCW University of the Arts London

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