Evaluating for Design Activism
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Introduction

Undergraduate industrial design students often work on projects that involve the inclusion of people from outside the university. However, the conflation of real world problems located among people with formal disciplinary education can be ill-defined and have uncertain outcomes. Performing within the lives and concerns of communities can lead to stress and a retreat into conservative approaches to learning and problem solving by students. This chapter outlines the authors’ response to this situation by describing the rationale and development of a particular methodology and pedagogy of project-based learning that has proven successful in its application in the context of people-centred design intervention for diabetes. The approach described elevates the civic dimension of learning, often de-emphasised in technical curriculums, as a primary driver of design activities in people-oriented design contexts and attempts to recast the designer as an activist of a specific kind.

The Design Studio

The main engagement between undergraduate industrial design students and academics occurs in a problem-based learning environment known as the ‘design studio’. Here students encounter design through a diverse set of experiences, where disciplinary knowledge and appropriate practices are learned by actively designing. As in other situated learning frameworks the student operates as a quasi-professional, a ‘designer’, recursively emulating an ideal of professional practice and gradually building capabilities through an action and reflection cycle (Schön, 1983). These design studio experiences are devised to simulate professional constructs, such as the design consultancy or the design departments within commercial manufacturing enterprises (Cross, 1984), and use fictitious, hypothetical scenarios mixed with real interactions to move towards design outcomes that capture the critical components of the framed problem (Cross, 1984). Within such simulations expectations of design practice are set and framed through an action and reflection cycle (Schön, 1983). These design studio experiences are devised to simulate professional constructs, such as the design consultancy or the design departments within commercial manufacturing enterprises (Cross, 1984), and use fictitious, hypothetical scenarios mixed with real interactions to move towards design outcomes that capture the critical components of the framed problem (Cross, 1984). Within such simulations expectations of design practice are set and framed through an action and reflection cycle (Schön, 1983). 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The Artificial Pancreas

Our engagement with a community of stakeholders in the realm of diabetes offers a case study to discuss a specific instance of our teaching practice. Design for people with diabetes was the subject of successive design studios over a four-year period from 2006 to 2009. The key themes for these studios, derived from staff research on this topic, were: ‘rethinking care’; ‘the home’; and ‘the remote-transnational context’. These contextual themes set out locations for innovation by focusing upon how individuals and communities might manage diabetes and each was rich with diverse stakeholders whose views needed to be included. As diabetes is a condition that is ‘lived with’, it is therefore a space in which the quality of life of people with diabetes and their careers can be socially, technically and institutionally mediated, and emerges for design intervention as a social and technical network. A primary characteristic of these studio projects was the requirement that students adopt a people-oriented practice by placing the people with diabetes at the centre of their design projects, thereby pushing issues of manufacturing and medicine to the periphery of the design process. Students were encouraged to engage in learning that allowed them to fully explore possibilities for change – not by disregarding the range of expertise present in the complex area of diabetes, but by momentarily putting aside field knowledge that is assumed and accepted to find innovation in alternatives. Repurposed as an agent of transformation and capability development across the social, technical and material segments of an intractable problem, these experiences sought to reorientate normative meanings and methods of design.

Central to these projects has been the authors’ construction of a narrative (a fiction) of the complex diabetes situation. Seen as a system (Image 1), this fictional construct provides a level of abstraction that allows students, experts and people with diabetes to engage equally and to contribute to the layering of the ‘project diabetes’ narrative through their own discourses and practices. This ‘fiction’ constitutes both the forum for, and aim of, a particular mode of ‘design activism’. In this space, accepted understandings of the diabetes situation have been disrupted by representing the problem of managing the condition for people with diabetes and the broader diabetes community as one of a flawed design – where the medicalisation of condition management has inadvertently produced a collective and distributed artificial pancreas, through the universalisation of blood glucose, insulin, dietary and exercise management regimes, and data sharing between people with diabetes, their carers and doctors (Varadarajan, Fennessy et al., 2009). Like a real pancreas the artificial pancreas is a sensitive organ that demands fairly consistent inputs and outputs for it to effectively function. The problem
lies in the fact the artificial pancreas functions through the maintenance of practices and lines of communication (inputs and outputs) between people and is mediated by technologies. The protocols, governance and languages of the artificial pancreas tend to preference the role of experts, who can appraise and predict patterns from the complex data that the system generates, rather than the person with diabetes. As people and technologies are never truly consistent, when the system falts it sometimes has catastrophic outcomes. The problem is therefore a design problem, and the solution lies in the development of ways of increasing the tolerance range of the artificial pancreas.

The mapping out of this ‘fiction’ and its elements constituted a key activity of the teaching so that students could reappraise understandings of the diabetes problem by layering micro and macro narratives so as to see patterns in the complexity of the situation. Mapping provided a first step in orienting design as a means of democratising or increasing the tolerance of the artificial pancreas, where the social, technical, institutional and economic discourses of diabetes, disease management and the medicalisation of health: where notions of the body, embodiment and the universalising of ‘condition’ as the binding mechanism for community, is contested.

Beyond this mapping, the design activity is one of proposing interventions into multiple sides of the condition so as to elicit a greater granulation of the social nature of the problem. However, the absence of a prototypical artefact that could be the subject of redesign or a concrete and solvable need requiring a focus on design intervention, presents unique problems for students in navigating their learning.

In seeking to understand the situation of diabetes outside the conventional design for manufacturing context the construction of scenarios and storytelling becomes the dominant artefact for a design project. The roles of the designer, researcher and educator as expert were muted to give adequate space for the individual voices and narratives of the diabetes community to be heard and incorporated into the thinking of the learner. Students were provided a framework to theoretically locate individual projects within the overarching contextual themes by using a series of dichotomous project typologies, for example, the short- and long-term, the transverse and longitudinal, the new and the redesigned and the product and the service. Given the high levels of uncertainty experienced by students when developing their projects, this framework helped to define their work and position as designers within the complex space of diabetes and to counter much of the resistance that students had in designing differently from how they had previously. This resistance often acted as a conceptual trap for students. Some students latched on to the ‘technical’ dimensions of the
problem area and found it difficult to reconcile their roles outside of designing a technical solution. Others conflated the role of design intervention as having a communication imperative with notions of accountability – where the information that is communicated through technical devices must be ‘true’ leaving very little room for the half-truths, miscommunications and interpretations that are part of any community. Similarly, some students in specifying a device or procedure by which complex data might be collected and managed, struggled to include incidents of misuse as legitimate actions of the community of users. Other students felt compelled to try to link all meaningful data in the reporting of the condition as inputs of equal value and found it difficult to rationalise the variety of positions and priorities that people with diabetes have. Finally, some students clung to frames of reference such as ‘efficiency’ as though it alone might yield appropriate design solutions.

Through the experiences of project work done with communities the authors realise that design innovation in the educational context is not necessarily systematic or capable of being bounded within current methodologies in design practice. Therefore in answer to the question: ‘Is current methodology adequate?’ the authors say ‘not really’. An alternative methodology of design needed to: provide reflexivity in learning to strengthen the ability of students to manage often-confronting concept demonstrations to people with a strong stake in the work being done; privilege collaboration with communities which have complex problems that cannot be solved through any singular, material or technological output; and support reciprocity between students and community stakeholders when those stakeholders want outsiders to approach their issues with unformed prejudices. The method developed is described in the following section.

**A Method and the Theory For it**

We proposed a four-stage design process that we named ieid (Image 2) to give students and stakeholders a clear understanding of the scope and outcomes of the design projects (Varadarajan, Fennessy et al., 2007; Varadarajan, Fennessy et al., 2009). The most significant aspect of the process is that it allowed students to set aside a priori knowledge of design practice and process. The stages of ieid replace structured processes such as research and design development with a requirement of ‘immersion’ and ‘exploration’ where embodied and experiential knowledge is privileged over the textual and the tacit. A stage of ‘intervention’ ensures that project solutions go back into the community for validation through field-testing the merit of design ideas. A final phase of ‘demonstration’ sees the establishment of a new enterprise and its material so as to give life to the design solutions.
Empathetic approaches to problem solving and the elevation of conventionally marginalised discourses as authentic tasks define this approach as a capacity building exercise for students (Chambers, 1997). This is not so that conventional modes of industrial design education do not enable in students higher order skills such as empathy, however, the direct relationship between the learner and the community provides a space where the impacts of empathy on design decision-making can be seen and validated and not simply supposed or inferred through a post de facto ‘reading’ of a design proposition. The methodology maintains conventional design practices with the exchange of material deliverables that include the sketched concept, refined illustrations and the model as material narratives that talk to the collaborators (Kuhn, 1970). However, these conventions are attached as a means of refining and communicating findings from a set of distinct research methods and participatory processes aligned to each stage of the project. The staging of the project provides a framework for guiding students’ learning experiences as well as serving as a time management tool for negotiating the often ambiguous and unpredictable real world contexts in which these projects take place.

Industrial design education has traditionally restrained itself to questions of how design might contribute to the enterprise of manufacturing products and has kept out of expert discourses such as those prevalent in the ‘socio-technical-contextual-institutional-experiential’ domain of diabetes and its numerous medical and social dichotomies. However, the portrayal of diabetes as a condition that generates specific management needs, creates a place for design – a place for implementing alternate methods of ordering and interpreting specific issues in contextually appropriate ways. The transformation of the disease from being framed by a specialised clinical language into an experiential phenomenon offers design an opportunity to visualise, reconstruct and recast difficult situations into products and services as serving as a time management tool for negotiating the often ambiguous and unpredictable real world contexts in which these projects take place.

The transformation of the disease from being framed by a specialised clinical language into an experiential phenomenon offers design an opportunity to visualise, reconstruct and recast difficult situations into products and services more attuned to actual needs and that can make everyday living ultimately more manageable for people with diabetes. Design in this way is positioned as a marginal or peripheral discourse in diabetes that is non-threatening yet at the same time acquires agency. This differs distinctly from mainstream design education practice in that the social and political are elevated over notions of manufacture and market by reorienting design as an agent for constructive intervention, and privileges the marginal discourses of a problem as locations for innovation.

Research within projects is characterised by reliance on a variety of methods to commence a participatory process, usually focusing on the use of different types of meetings, group activity, and information-gathering techniques as tools for mapping the totality of the situation (Kirdar and Silk, 1995) (Weil and Reisch, 2005). The method has been tested and refined through design studio projects about diabetes as a generative mechanism that aims to amplify the disregarded and faint voices of the people with diabetes, and to make explicit those voices through tested design propositions. The role of the design educator within this space is quite specific and focused on enabling the development of a set of particular capabilities, namely agility of problem setting and solving, empathy, the ability to listen deeply to the situation and the capacity to adopt a flexible identity as a designer, where the context of the problem sets out the parameters by which the designer can contribute.

Student Experiences

Student work generated in the diabetes projects has included the design and testing of new products, new software systems, modification to existing products, propositions for new services and strategies for the establishment of diabetes management service systems for Australian, Indian and Chinese contexts. Other outcomes of these studios include presentations and publications as well as a large, multidisciplinary, collaborative, design, learning and teaching project funded by RMIT University.

The ways in which design problems, such as the problem of diabetes or notions of ‘care’ are tacitly constructed, are opened up and dismantled with students so that design activity is not enacted in response to the brief of others. This requires the entirety of the situation to be problematised and redefined from the perspective of the designer as a co-creator of social practices. Here the designer is compelled to set aside presumptions of how a situation might be approached and is asked to situate themselves as someone who has a stake in the situation becoming something different from what it is. The designer in the first instance asks not ‘what should be done?’ but rather ‘how ought it be?’ thereby rendering the learner and their work as legitimate stakeholders in the situation.

Listening to the voices and the narratives of people is crucial for students if they are to meaningfully engage with the authentic problems of others and innovate in ways that are unconstrained by expertise. Without the distance provided by the usual abstraction of design problems by conventions of production, market and client, the capacity of students to bring their own initiative to their learning must be supported through particular approaches to teaching and porous concepts of the discipline. This presents challenges for student and teacher alike when working with communities, as
understandings and expectations of legitimate learning outcomes in the context of industrial design education need to be frequently reconsidered. Students often found that learning through the narratives of people with diabetes was accompanied by an awkward negotiation of their roles as designers and learners. Negotiating these roles was considered important learning by students when reflecting on their experiences in designing for diabetics and their communities.

Students tend to react to the open-endedness of the methodology by either building a strong sense of purpose to the problem at hand or reconstructing their individual identities as marginal, but legitimate, voices within the context of the problem. In both orientations students demonstrate responsibility and care in their work with communities. Students draw on individual experiences, they tell stories, they build working relationships with stakeholders and they begin using whatever agency they have to honestly respond to real world problems. These relationships are in the first instance facilitated by the educator but once established, students develop autonomy and ownership of the relationship. The immersion of students into a community facilitates a greater level of empathy and a realisation that designers are not always able to provide a functional solution. However, if students do not feel that they have articulated a truly responsive ‘solution’ then the lack of solution is still respected by the community engaged as a valuable contribution to the community and the student’s individual development.

The Project of Activism: Negotiating the Other

The project of facilitating individual development in industrial design students to become design activists is an enterprise of a specific kind, and one that the authors have pursued over a number of years under the monikers of ‘community engaged practice’, ‘campaign projects’ and ‘concerns based practice’. Teaching and learning projects in this realm have been directed to discourses of design for development and more recently to discourses of intervention can, and will, improve the quality of lives of people has given rise to discourses of design for development and more recently to discourses of ‘social’ and ‘user-centred’ design. Such discourses, while frontally engaged, are inadequate when social reform is positioned as an explicit curricula aim in the development of the designer, and therefore the affect of the outcomes of design on people and communities. Such an ideologically charged approach to design and design education is not without its problems and precedents. In the field of industrial design the long-held notion that technical intervention can, and will, improve the quality of lives of people has given rise to discourses of design for development and more recently to discourses of ‘social’ and ‘user-centred’ design. Such discourses, while frontally approaching both the actual experience of using a designed artefact and the historical paucity of direct disciplinary activity in the ‘development’ sphere,
retain at their core the design of industrially produced goods as the lever by which questions of use and experience are engaged. Such discourses thereby privilege, albeit tacitly, design for production and consumption over and above the roles that design may play as a particular mode of enquiry and negotiation of problems within communities.

To this day much of the industrial design education offered around the world does not adequately question the social and contextual drivers of the discipline’s early craft and industrial art constructs, rendering its pedagogies insufficient when design activity is deployed as a problem solver within complex contexts. Conventional methods and approaches to teaching industrial design do not, in the authors’ experience, provide the necessary scaffolding to ignite the types of agency that could enable the designer to function as an activist – where action toward real social reform is enacted through design and the agenda that underpins action constitutes the project.

When engaged in a complex problem area industrial design often orients itself as subservient to the dominant expert discourses that specify the nature of a problem and the means of addressing it. For instance, in the area of health the medical position dominates, in the area of sustainability the environmentalist’s position overcrowds that of the social. In the design of a product for manufacture the designer attempts to balance the expert, dominant discourses of the problem/solution space with the prerogatives of style, usability, production, manufacture, marketing and price point. The difficulty in this is that an underlying social reform agenda that may be critical in adequately approaching a problem and those implicated by a ‘solution’, can be unwittingly sidelined by the designer in the design process and relegated to the recounting and post-rationalisation of the project, its outcomes and effect. This culture of self-deactivation of disciplinary ideals presents educators with an interesting challenge as to how to enable a particular social reform capability that can be engaged productively alongside the aesthetic and technical capabilities that industrial designers deploy in practice.

As design researchers and pedagogues, we attempt to redefine design as an agency and the designer as an agent of transformation. Our teaching is concerned with building capability in design students to enable them to work independently of organisational, economic and trade prerogatives and to bring deliberate and deliberated change into the lives of people. In this way the designer is akin to an activist and the education of such a designer is one of awakening in the designer the desire for playing the role of the activist.

References


