

# USING SOCIAL ENGAGEMENT TO INSPIRE DESIGN LEARNING

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## ABSTRACT

Social design and ‘design for need’ are important frameworks for establishing ethical understanding amongst novice product designers. Typically, product design is a value-adding activity where normally aesthetics, usability and manufacturability are the key agendas. Howard [1] in his essay “Design beyond commodification” discusses the role of designers in contributing to cultural expressions designed to influence consumer aspirations and desires. He argues that designers are impelled “to participate in the creation of lifestyles that demand the acquisition of goods as a measure of progress and status.” As emerging consumers, student designers tend to reflect this consumer culture in their work, seeking to add ‘marketability’ by focusing on aesthetic development. However value adding can occur in many different manifestations, often outside commercial expectations and the students’ experience. Projects that may be perceived as having limited market potential can often have significant personal impact for both recipient and designer.

Social engagement provides a valuable insight for design students into the potential of design to contribute solutions to societal well-being, rather than serve market forces. Working in a local context can enhance this, with unlimited access to end users, their environs and the product context, enabling the development of user empathy and a more integrated collaborative process.

The ‘Fixperts’ social project discussed in this paper has proved to be an effective method of engaging undergraduate students in participatory design within their local community. This model for social engagement has provided an unprecedented learning experience, and established a strong ethical framework amongst Brunel design students.

*Keywords: Design for Social Impact, product design education, co-design*

## 1 INTRODUCTION

It can be difficult to associate design student learning with the potential of design to contribute to communities. Undergraduate students, who may struggle initially with the acquisition of basic design skills, typically lack both confidence in their abilities, and understanding of the practice of design. At Brunel University London, collaboration with the social project ‘Fixperts’ has provided student insights into the potential of design to address societal problems. This social engagement model requires students to interact within their local communities to discover individual and organisational needs that require design intervention, and to engage with recipients to understand the problem, employing co-design processes, then proposing, testing and building a working solution.

## 2 DESIGN FOR SOCIAL IMPACT

Papanek noted more than forty years ago that designers had become “a dangerous breed” and proposed that their responsibilities should shift from market driven design towards social and environmental concerns [2]. He advocated new design agendas to address the responsible use of environmental resources and achieve improved societal balance.

However for many years the majority of designers have interpreted their social role as complementary to business strategies and the traditional market-driven approach [3]. Indeed one could argue that, despite the informed narratives of Morelli, Margolin etc and the admirable social design initiatives by leading design agencies such as IDEO, most designers still serve the interests of the more affluent sections of the global community, rather than the needs of those who exist at the base of the pyramid; ‘the other 90%’. Victor Margolin referred to “the designer's ability to envision and give form on material and immaterial products that can address human problems on broad scale and contribute to social well-being” [4]. Designers have a responsibility not to ignore the potential of design as ‘agents

of change' to make a broader contribution to society, rather than to enhance to market success or influence consumer behaviour.

Product design is a value adding activity that should extend far beyond aesthetics, usability and manufacturability, towards a model where social impacts and design intervention are the key agendas. Designers can play a significant role as "shapers" of society through interventions that encouraging behaviour change, and the corresponding social implications [5].

However, social impact can really only be achieved by understanding the individual and societal needs within their specific social, environmental and economic contexts [6].

### **3 DEVELOPING A SOCIAL CONSCIENCE**

The importance of developing student understanding of design's potential to contribute to less advantaged communities has been well documented (e.g. Morelli [3], Margolin [4,10,11], de Vere [7], Ramiraz [8] etc). Design has a critical role in the well being and betterment of societies, yet design education is often focused on the tools required to service a consumer-product-service model that services the expectations of only the most wealthy 10% of global society. To make a broader contribution, the next generation of design and engineering graduates will need not only awareness of complex cultural, societal and environmental concerns, but also an embedded ethical philosophy that forms the foundation of their learning.

However it is difficult for design educators to impart more than a rudimentary understanding of social design given their locational constraints. Students lack access to the communities and contexts that they seek to assist, particularly as many of the most disadvantaged communities are in remote (often) third world locations. Consequently, the meaningful engagement and participatory design processes that characterise successful social design projects cannot be realised, and design solutions can be 'remote', lacking the local context and user empathy essential for viability and longevity. Consequently, while curricula may contribute to awareness and compassion, students do not feel empowered, or capable of effecting change and making a positive impact through design.

For students to successfully engage in socially responsible design a more local context is required, where students can co-design directly with the target community [9]. A 'design intervention' model within a local (and easily accessible context) can directly aid marginalised groups and individuals (such as the economically disadvantaged, ethnic minorities, and the elderly and disabled) through assistive devices, urban renewal activity, crime prevention and community resource provision. In addition, student learning benefits from enhanced understanding and empathy.

The Fixperts educational project ([www.fixperts.org](http://www.fixperts.org)) described in this paper provides an appropriate platform for students to achieve a meaningful social contribution, *within* a local context. User-engagement throughout the design and build process, creates opportunities for students and educators to realise achievable social design projects, and add value to their local communities.

However the most important outcomes for students are the development of a social conscience and the realisation of the power of design to make a positive contribution to well-being and the quality of life. This is an invaluable lesson for novice designers.

### **4 FIXPERTS**

Fixperts was launched at 100% Design in London in 2012 as a platform for designers to engage in their communities and help people with everyday problems. It is an open knowledge and expertise sharing platform whose mission includes the premise that 'fixing' is a valuable creative and social resource and that people should be encouraged to use the power of fixing to solve everyday problems. Whilst 'fixing' can take many forms including repairing and rejuvenating, in this context, design delivers solutions through artefact creation, rather than repair. The premise of the project is not only to create design content, but to document the process with the Fixpartner, testing 'research in the wild' methodologies first hand. Design educational environments are a valuable resource of creativity and enthusiasm, and students are willing recipients of product design experience in a real world context.

#### **4.1 Educational Project**

The Fixperts Educational Project [12] has been embraced by several universities worldwide (including Berlin University of the Arts, Kingston University, Brunel University London, and Tongji University in Shanghai). It aims to promote social values through design, and create opportunities for students to:

- make a strong connection between design and problem solving,
- experience working in a collaborative team on real world projects at human scale,

- learn to listen, develop empathy and understand the needs of end users,
- develop strong relationships within their local community and environment, and
- see the impact of direct positive application of their creativity and social engagement.

Brunel Design’s engagement with Fixperts has provided a valuable learning experience and a platform to achieve a meaningful social contribution within a local context.

## 4.2 Fixperts and Fixpartners

The fixperts education model of engagement has four main stakeholders:

- *Fixperts* (people who love to make and improve things – the design students),
- *Fixpartner* (a person within the community who has a ‘fixing challenge’ and is open to allowing a Fixpert to improve something in their day to day life),
- *Master Fixpert* (a tutor directing student process and solutions), and
- *Film Maker* (to document the process and outcome).

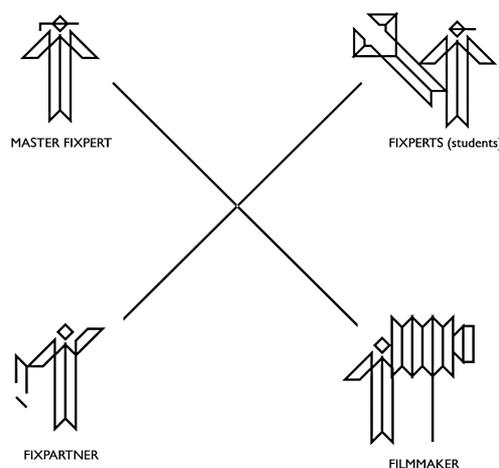


Figure 1. The Fixperts Education Model

In the Brunel Level 1 curriculum, first year BA/BSc students assume both the roles of Fixperts and Film Makers, working in teams of six to identify a suitable Fixpartner, design, test and build a working solution. The students document the engagement and design process in a 3 minute film which is then uploaded onto the Fixperts website (<http://fixperts.org/fixfilms/>).

## 4.3 Finding a Fixpartner

The process of securing a suitable project requires students to reach out into their local community and engage with community groups, charitable organisations, neighbourhood businesses, social and sports clubs, and support agencies. The process has to conform to university ethical and safety standards, which are maintained through staff supervision. This requires students to communicate with a broad user demographic, which can be challenging for less confident students, and for those with lower English language competency. We have observed that the relationship that is established between the Fixperts and the Fixpartner is essential to the success of the design intervention, so it is imperative that students quickly establish rapport and avenues of communication. A level of diplomacy is also valuable as students must lead the design process, whilst respecting the opinion of the Fixpartner and including them in design decision making process. However the benefits of this process are invaluable as students develop strong relationships and empathy for their Fixpartner.

## 4.4 Suitable projects

The project aims to develop on-off solutions to a specific individual or group need. Solutions are experimental prototypes and the Fixperts process is not intended to deliver high-volume manufacturable products, although the potential can exist for project outcomes to be developed further

if there is legitimate market demand. Students must approach the process cognisant of the need to work within tight budgetary constraints, and material and fabrication limitations. As Brunel students undertake the project before completing their workshop training, access to machinery and technical resources is limited, and hand fabrication is often the only viable construction option. This can limit the potential of a project, so initial scoping and project selection critique by tutors (Master Fixperts) plays a vital role in ensuring that outcomes are realistic and achievable. Ideally students are directed to avoid outcomes that may have Health and Safety implications (such as mains electricity, structural loading and stability, dangerous operating environments etc), or ethical concerns.

Students are encouraged to meet with the Fixpartner as a group, and initiate a “Design Scene Investigation”, through observation of daily routines and situations that are not problematic or frustrating. Good projects often result from issues the Fixpartner has learnt to ignore or work around.

#### **4.5 Managing expectations**

It is important that Fixpartners understand the limitations and scope of project outcomes. Level one students (the Fixperts) are novice designers, still developing materials knowledge and fabrication expertise, with limited resources. Whilst all efforts are made to ensure a safe and well finished “fix” (design solution), the nature of one-off hand fabrication does not result in the levels of finish, quality control and consistent product performance that results from controlled mass-manufacture. This does not mean that solutions are rudimentary and poorly resolved or constructed (as this could lead to public liability issues), but rather that the level of finish will reflect the nature of a prototype rather than a retail-ready product. However despite these constraints, Fixpartners are typically delighted with the engagement process, the contribution made by the students, and the final outcome.

#### **4.6 Documenting the Fixing process**

The Fixperts process, culminates with the design prototype being delivered to the Fixpartner, and a three-minute film being produced to document the engagement experience. Students must capture the entire project from initial consultation through all aspects of design development, testing, and prototyping, to footage of the Fixpartner testing the final solution.

Typically students are not experienced in filming and video editing processes, so must quickly develop a filming technique that will deliver consistent light and sound quality during the project to aid the later editing process. Footage must be cut and edited with subtitles, voice-overs, and sound tracks added as necessary. Time-lapse photography and stop motion animation have also proved to be valuable tools to capture extended design and prototyping activity.

These films which are later uploaded to Vimeo and linked to the FixFilms website, must exhibit good quality imagery and an engaging and compelling documentary style.

### **5 BRUNEL FIXPERTS**

#### **5.1 History**

Brunel Design has used the Fixperts Education Project since 2013 as a means to support learning in social responsibility, inclusive design and social impact. Approximately 20 student groups (of six students) undertake the project as part of Design Process 1, a 40cp core module in Level 1 for students of the BA Industrial Design and Technology, and the BSc programmes in Product Design and Product Design Engineering. The engagement experience has been valuable in developing understanding and empathy with regard to social issues beyond the students’ experience. It has also proved to be a valuable asset to local businesses, charitable organisations and community groups who have benefited from design interventions. The project is run immediately after the Responsible Design project that requires students to develop sustainable solutions to global issues. Whilst the outcomes of that project are largely conceptual, the Fixperts brief allows theories to be applied in a local context with readily accessible environments and recipients.

#### **5.2 Project hurdles**

Some barriers to successful project implementation and outcome realisation have surfaced.

As mentioned earlier, students have not completed workshop training when the project commences, and are thus unable to readily access workshop prototyping equipment and assistance. The resultant self-sufficiency with regard to sourcing material and resources is invaluable in reducing dependency

on lecturers and technicians. Concerns exist about the safety and durability of prototypes and potential public liability issues, and it is critical that the technical and lecturing staff (Master Fixperts) work closely with student teams to ensure safe and appropriate design solutions.

Students must exercise care with regard to the ethical implications of filming and publishing films in respect to individual rights to privacy and the depiction of children. When working with children and those with disabilities, a great deal of sensitivity and empathy is required during the engagement process, and in documenting the journey. In project where a Fixperts team developed a height-adjustable exercise bench for a girl with disabilities, the child's mother refused to give the students permission to film the child or her environment. Whilst this placed barriers in regard to the project submission (the documentary film), students countered this by using role play and sketch animation to represent both the problem and the user-interaction with the design solution, whilst respecting the Fixpartner's privacy concerns.

### 5.3 Process

The Brunel design students use a process that includes exploring, making sense, proposing, testing and iterating (prototyping and filmmaking). There are parallels with Kimbell and Julier's Social Design Methods Menu [12], particularly the process of spending time understanding people's experiences and resources on their own terms, taking methodical steps to analyse and address these with their active participation, story telling, and developing design solutions based on the way people actually do things in their own context. However, the documentary film outcome dictates the students' methodology with user-in-context *filming* replacing *drawn* investigative story worlds, and interaction storyboarding.

Unlike a normal design project, students are not required to submit project portfolios, technical documentation and artifacts for assessment; instead the three-minute documentary film provides the narrative and evidences all stages of the design process.

### 5.4 Project examples

The types of project chosen by students are diverse reflecting the wider community in which they live. Outcomes can vary from small handle adaptations for the elderly to sporting equipment and specialist transportation systems. The breadth of scope is evident through the project outcomes in Figure 2 and through the FixFilms on-line repository.



Figure 2. Examples of project 'fixes' (from left to right): wetlands bird feeder, kayak carrier harness, adjustable physiotherapy bench for disabled child

### 5.5 Learning outcomes

The Fixperts education project has resulted in some unexpected learning outcomes. It has been observed that this project (which occurs at the end of the students first university year of design studies), is a 'coming of age' event where the skills they have learned during the previous two terms are realised in an outcome with tangible and measurable benefits. The satisfaction of developing and delivering a solution to a real world problem, results in a heightened sense of achievement amongst the students, far greater than the receipt of a good assessment grade.

The subsequent boost in confidence across the student cohort has been encouraging, as is the acknowledgement of design as an agent for change. Fixperts has provided a platform for these novice designers to realise their potential and contribute positively to society to improve lives and well-being. There is also evidence of an emerging enthusiasm for design as a profession, rather than a series of university-based creative activities.

## 5.6 Community benefits

The Fixperts model has obvious benefits to the local community. Individuals, small businesses, sporting clubs and charitable organisations have experienced design interventions that have resulted in social impact through a beneficial design solution, whilst young students have engaged with their local community. Highly individual problems have been resolved in a participatory design/user engagement model that develops empathy and understanding and a community spirit. Engagement with Fixperts has demonstrated to students how they can use their skills to make a positive contribution to their local community, and portrays design as a problem-resolving process that provides beneficial societal solutions, not just consumer products. These are valuable lessons for novice designers.

## DISCUSSION

Whilst there is value in students exploring their neighbourhood looking for problems, there may also be merit in establishing a repository of people and problems, aligned to a network of local fixers. Student teams could advertise their services in local newspapers and bulletin boards, and local businesses could be encouraged to support the project by funding material purchase. Whilst Brunel Design currently uses Fixperts as a six-week tool for student learning, there is no reason why the model cannot be used as a template for creating active design projects with local community. This could be manifested in the form of a permanent community outreach resource, staffed by students across a range of levels and disciplines.

## CONCLUSION

The benefits of real world projects on student learning are well established. Industry or community-led pedagogy allows direct engagement with users, and develops empathy and understanding for societal and environmental contexts. The Fixperts Education Project has provided students with valuable insights into the potential of design to resolve societal problems and has helped establish a strong ethical framework amongst Brunel design students. This highly popular project, whilst addressing Papanek and Margolin's calls for a greater social responsibility, provides the means for students to have an immediate societal impact through design intervention. For students, this is highly motivating and rewarding. It is evident that social engagement in a local context is an appropriate process to inspire design learning.

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