

# UTILIZING THE DESIGNER WITHIN: A HEALTHCARE CASE STUDY

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## ABSTRACT

This paper explores the utilization of design skills and approaches by non-designers within the context of rehabilitation in healthcare. The author proposes that within us all is the set of skills, strategies and modes of thinking commonly found in designers that, if recognised, understood and practiced, could potentially be harnessed by non-designers to assist them in everyday situations. Rather than this usurping the designers' role, designers may have the potential to help 'unlock' these capabilities in others and help change the patient-to-healthcare professional relationship. This idea is explored using a pilot study involving spinal cord injuries patients in rehabilitation.

## INTRODUCTION

Designers often claim to possess and practice a unique set of skills. However, the author proposes that within us all is a set of skills, strategies and modes of thinking commonly found in designers that, if recognized, understood and enabled, could potentially be practiced by non-designers to assist in helping them in daily living. This is not only an issue of recognizing, separating out and practicing these 'design' skills and approaches, but also recognizing the conditions under which 'design approaches' and 'designing' can occur and indeed flourish. Using a pilot research experiment to explore the potential of using tacit 'design' skills by spinal cord injuries (SCI) survivors as part of a larger project intended to help enhance their own self-reliance and resourcefulness, the author discusses the kinds of skills, thinking and strategies used by SCI survivors to approach a particular set of problems and asks, if ultimately left to their own devices, could non-design individuals design without designers being present.

## LITERATURE AND THEORY

The idea of design without designers is hardly new. For example, IDEO's prototype Human Centered Design (HCD) Toolkit (2009) is essentially the knowledge transfer of design-led approaches used originally to innovate in multi-national corporations and then developed for 'the creation of a method for guiding innovation and design for people living under \$2/day'. The HCD Toolkit is a 'self-start manual' describing a broad set of methods that can be used by non-designers without the need for designers.

Kimbell & Miller (1999) revealed that designers were not particularly articulate about the kinds, or mix, of skills they possess. From their research they derived, a 'design skills framework' comprising: i) higher order skills (intentions/purposes), i.e., the ability to plan/order, generate/create, investigate/find out, evaluate/judge, communicate/ present; ii) operational strategies (making thinking explicit), i.e., the ability to unpack wicked tasks, iterative thinking, playing with reality, optimising values, modelling futures, managing complexity and uncertainty, optimised decision-making, collaborating (creative brainstorming), collaborating (evaluating/ planning); research – seeking knowledge, and iii) functional skills, i.e., talking, writing, calculating, drawing, and making. More recently, a separate author, Kimbell (2011), described different kinds of design thinking as either: i) a cognitive style; ii) a general theory of design; and iii) an organisational resource.

In March 2011 the Royal Society for the encouragement of the Arts, Manufactures and Commerce (RSA) reported on a three-day Design & Rehabilitation workshop at the RSA's headquarters in London (Campbell 2011). The RSA's Design & Rehabilitation project was 'a design training initiative for people with spinal cord injuries' and proposed that 'design as a discipline, or structured thought process, can address the dramatic loss of confidence and diminished motivation that may result from a sudden physical impairment, and can contribute to independence' (Campbell 2011). The project was originated and led by Campbell, the then Director of Design at the RSA. She proposed that 'it is possible to share aspects of this technical [i.e. design] education with non-professionals to increase their

resourcefulness, and persuade them that they know more than they think about how problems might be solved' (Campbell 2009). Following this, Campbell identified three spinal injuries centres in the UK to work with 'the best local universities teaching design' for the next stage of this programme. The Queen Elizabeth National Spinal Injuries Unit (QENSIU) at the Glasgow Southern General Hospital, and the School of Design at The Glasgow School of Art (GSA) were selected to work together in one of these three partnerships (Campbell, 2012).

Questions for GSA arose from the RSA's initial work. Although SCI survivors were able to participate in 'designerly' activities and demonstrate certain designerly skills in the presence of designers during the RSA workshop, are they only able to demonstrate certain skills in the proximity of designers and would they still be able to demonstrate these in the absence of designers? If so, how long would these skills endure and would SCI survivors be able to define problems sufficiently well to be able to apply these skills and approaches autonomously? Given the premise implicit in the IDEO HCD Toolkit, the author defined a working proposition to test with the SCI survivors: designers have a describable set of skills they use to tackle problems and develop solutions; everyone might have that set of skills but not be aware of these or how to use these in a structured way. From this arose a set of research questions: i) what is the skills set of designers? ii) what are the innate skills of SCI survivors? iii) what is the match between designers' and SCI survivors' skills? iv) if there was a match could SCI survivors' skills be developed by training or through a toolkit approach to enhance their resourcefulness in tackling the daily life challenges of SCI? v) if so, when, where and how? This set the agenda for a GSA / QENSIU programme of research.

From QENSIU's perspective, as SCI poses very particular challenges for its survivors, there was an interest in how 'design' approaches and methods might be able to help: i) staff and carers in the personalization of SCI survivors' treatment and access to rehabilitation; ii) SCI survivors and their carers in the 1-year post-discharge phase which has been identified as particularly problematic; iii) assist in the socializing, engagement and integration of survivors into the wider community; iv) staff improve the process of rehabilitation and how this is delivered; and v) develop skills in SCI survivors to promote resourcefulness and self-reliance and decreasing the need for dependency on carers and healthcare professionals, i.e. alter the patient-to-healthcare professional relationship.

## METHOD

The first stage of this 2011-2012 programme of enquiry was divided into three phases: i) a seminar to facilitate an initial discussion of design methods in healthcare and of issues faced by SCI survivors; ii) a workshop to test the initial proposition that SCI survivors possess (at

least some) innate design skills; and iii) an evaluation phase. The differentiation and categorization of design skills and approaches in Kimbell & Miller (1999) and Kimbell (2009; 2011) were used as the basis for a typology through which research questions (i), (ii) and (iii) above could be explored and discussed.

For the second phase, a number of possible themes and ideas for a workshop were explored. One aspect of daily life identified by QENSIU which appeared to be particularly problematic was the very practical difficulties posed for SCI survivors shopping for clothing; this encompassed a number of problems and a degree of complexity, reflecting many daily life situations. The workshop was structured around the 'shopping journey' to explore i) the range of complex and inter-related issues for SCI survivors and ii) the skills they utilized in tackling various problems and issues arising from this. It comprised three separate but related activities and an evaluation and feedback session. SCI survivors participating were: three outpatients in wheelchairs; one in-bed in-patient; a further wheelchair outpatient joining later for activity 3. A number of QENSIU clinical, ward staff and therapists joined the workshop – but only after activity 3 - to witness the results and to participate in feedback occurring at the conclusion of the activities described below.

As it was important to understand what the SCI participants' own innate skills were, careful briefing of the facilitators was crucial; they were instructed not to 'lead' with their own ideas but to 'enable' the participants to contribute theirs. SCI participants were paired and two facilitators were assigned to each SCI pair both to capture comments (on sticky notes) and issues and ideas (through sketch visualization).

## EVALUATION OF DATA

### *Phase 1: Seminar*

Feedback from the SCI survivors during discussion after each section in the afore-mentioned phase 1 seminar was typified by SCI survivors' 'autobiographic' narratives, i.e. an individual's recounting of his/her own history of their injuries and attempts to come to terms and adjust to their new lives with SCI.

### *Phase 2 Activity 1: role-playing the personal shopper*

As one key ability, not unique to but certainly well-exercised within user-centred design and co-design approaches, is to be able to think of another's needs, the first workshop activity used role-playing of 'the personal shopper' for their workshop partner with the brief to identify clothing for a special occasion, where looking good and a projection of their partner's individual preferences and personality were important. The interesting observation emerging from this activity was that, in contrast to the 'auto-biographical' mode used when discussing their own personal experiences and difficulties in the previous seminar, SCI survivors could begin to think and act from the perspective of another's needs. In this type of activity the SCI survivor

became a 'carer', as distinct from 'one who was cared for' and was not one that QENSIU staff were used to hearing, the autobiographical account being the norm.



Figure 1. Healthcare staff at QENSIU viewing SCI survivors' critiques of the shopping experience status quo. Still from film, 'Design and Rehabilitation', Dir. Claire Levy © 2012.

### *Phase 2 Activity 2: the shopping 'status quo'*

The second activity explored the 'shopping journey' scenario to understand how well SCI survivors were able to identify and define problems with the *status quo*. Such a shopping journey would normally involve travelling to and arriving at a store or shopping centre by some form of transport, finding one's way to the chosen department, looking at and handling clothes and fabrics, and trying on clothing to assess fit, look and feel and so on as part of the experience and decision-making process. For the purposes of the workshop, the shopping journey was deconstructed into a series of distinct stages and, after being prompted by visual cues for each stage, SCI survivors were asked to think about and rapidly describe their own shopping experiences and to identify problems and issues they had with current store-based expeditions for shopping for clothes, describing what happened, how this made them feel and issues they thought needed to be addressed.

To facilitate this activity, a large format printed matrix 'The shopping experience: the status quo' was provided onto which their comments and issues were located. This resulted in a rudimentary 'experience' map or 'shopping-journey' map creating a visually annotated critique of the *status quo*, identifying some key issues or problems for potential improvement of the shopping experience. This revealed a range of tangible interaction and service 'touch-points' issues, as well as more intangible (de)motivating, and emotionally frustrating issues, such as parking issues, clearly seeing and feeling garments, seeking assistance and storing bags of shopping. Results indicated that SCI survivors were well able to identify and specify problems, another declared design attribute. These kinds of thinking by SCI survivors were unfamiliar to and surprising for healthcare staff (figure 1).

### *Phase 2 Activity 3: What if...?*

Having discussed the problems and issues with the shopping status quo and identified a number of key issues and problems, SCI survivors were given the

opportunity to imagine and design improved 'store-based' shopping experiences using the problematic issues they had identified in Activity 2 as their starting point. Activity 3 used the kinds of 'what if...?' approaches familiar to designers during brainstorming- and workshop-type activities. Facilitators provoked discussion (importantly without adding ideas of their own), recording and helping visualize ideas that SCI survivors volunteered. Many ideas, such as a shopping centre collection service for wheelchair shoppers, centralizing and storing all bags bought in different shops until ready to leave the car park, were generated.

## DISCUSSION

Due to the limitations of time and resources only some of the full spectrum of thinking modes, strategies and skills that designers utilize during the process of designing were explored in this workshop, i.e. none of the ideas were prototyped, tested or refined. However, the author has explored these later stages in the design process, also involving non-designers in previous work (Macdonald et al. 2012) and found similar results; under certain conditions non-designers are capable and sometimes adept at, e.g., prototyping experiences and products.

In the three activities in this workshop the SCI survivors demonstrated that, to a greater or lesser extent, they could clearly: i) think of others' needs; ii) identify and detail problems with current service provision (i.e. the shopping experience); and iii) imagine improved scenarios/designs, all skills locatable within Kimbell and Miller's (1999) framework, thereby revealing that SCI survivors possess at least some of the same skills as designers, although perhaps not used so intuitively, consciously or as in as practiced or structured a manner as designers.

An early emerging question in the author's mind was whether a toolkit of such design approaches and methods together with exemplary case study material would be useful to help SCI survivors unpack and approach some of the 'wicked problems' that face them in daily living?

The research described here has its limitations. For Activity 1, there remains the question of whether the SCI survivors would have tended to do this of their own volition without being facilitated. However, the simple brief changed the mode of SCI survivor narrative from 'self' to 'other', perhaps of value in its own right for use within rehabilitation healthcare. For Activity 2 the shopping journey had to be preconceived and deconstructed by the researcher, not only into the distinct phases, but also structured to allow for the capture of the more emotive issues as well as practical difficulties. The envisioning of the participants' comments and issues by the workshop facilitators no doubt helped participants begin to specify and 'see' the issues in ways that they would not have been done so before. So although these problem-identification skills are apparent in the SCI survivors, the approach to

unpacking the problems and separating out the issues was facilitated in a designerly way. Activity 3 was, initially, the most difficult of the three activities for the SCI survivors to engage with. One interpretation of this might be that the *status quo* was so problematic that they had become habituated to this to the extent that it was difficult for them to imagine how the experience could be improved and also perhaps because the idea of exploring improved or 'ideal' scenarios was not one familiar to them. However, with appropriate encouragement, assisted using envisioning techniques by the facilitators, some interesting ideas began to emerge demonstrating that, once enabled, the SCI survivors demonstrated an innate ability in some of the kinds of speculative and imaginative skills which designers are fond of citing as part of their own skill-set. Activity 3 created a bank of ideas that could potentially and subsequently be prototyped, tested and refined.

However, although a toolkit-type resource might be useful to SCI survivors and worth exploring, would this be sufficient in itself? In workshops such as these, although we can demonstrate that 'designing' occurs using recognizable and categorizable sets of designerly skills and approaches, it is not only a matter of SCI survivors developing or acquiring the designer's particular set of skills. Throughout this enquiry, questions emerged such as: 1) How much exposure might SCI survivors require through design activities for them to begin to develop sufficient skills without having to undertake the normal kind of training a designer would undertake? 2) How enduring would these learnt skills be, i.e. once the immediacy and novelty of workshop-type experiences had receded, for how long could they continue to apply these (i.e. would any effect be time-limited)? 3) At what point could SCI survivors begin to autonomously address some of the 'wicked problems' of daily living they face, through the practice and application of design approaches? We have no data to answer these questions; a longitudinal study of the durable impact of the initial RSA pilot has not been made, and indeed it was only intended as an exploratory experiment which is described more fully in Macdonald (2103). One of the challenges of this kind of project is not only understanding if non-designers can 'design' as such and to what extent, but under what conditions can designing be best fostered and flourish.

## CONCLUSION

If self-reliance and resourcefulness are to be assisted and developed by SCI survivors through designerly approaches either whilst within a SCI unit such as QENSIU or post-discharge, the challenge would not only be to develop, within the individual, designerly skills and methods *per se* but also how the requisite conditions or environments for designing as such could be created for - or by - the SCI survivors either within a rehabilitation unit (in this case QENSIU) which has (understandably) a predominantly medical/clinical ethos

with a certain kind of professional-survivor hierarchy, or in the relatively more isolated and less supported environment of the community or home, two very different kinds of environments. This suggests that training in design approaches could be developed and practiced as an element within an in-unit rehabilitation programme to better prepare SCI survivors prior to their discharge from the unit, an experiment which will be explored in the next phase of the GSA/QENSIU research.

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