

“It’s Not What You Do, It’s the Way That You Do It”: The Challenge Workshop - A Designer-Centred Inclusive Design Knowledge Transfer Mechanism for Different Contexts

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Abstract. This paper will look at the Challenge Workshop, a knowledge transfer model on the inclusive design process based on the seven DBA Inclusive Design Challenges organised at the Royal College of Art (RCA) since 2000 by the author in collaboration with the Design Business Association, the leading trade association for designers in the UK. This mentored annual competition sees leading UK design firms work with consumers with severe disabilities to develop innovative, inclusive and aspirational product and service prototypes for the mainstream market. It will focus on how this collaborative model has been further developed into creative workshops of varying lengths and iterations in different contexts in the UK, Japan, Israel and Singapore to inspire and inform designers, engineers and others of the innovative possibilities of inclusive design and in the process change their perceptions. The paper will also describe how the workshop has been adapted to and addressed the different knowledge transfer challenges of each cultural context and will show examples of some of the outstanding design proposals that have emerged.

Keywords: inclusive design, knowledge transfer, disability, design innovation.

1 Introduction

Inclusive design is based on the simple principle that if you include those most affected by design failure in the design process from inception to finish, your design is likely to work for them and other consumers who may experience similar difficulties with the product or service in question, albeit to a different degree.

Understanding why things fail and working with others across the design and engineering disciplines as well as experts from other fields, who can supply the missing information in the right dosage and at the right time is a powerful route to better design. Holistic principles such as these are simple to grasp theoretically, but implementing them into the time-pressured commercial design process is notoriously tricky. For collaboration means dealing with partners from different disciplines each of whom has their own time lines, definitions, vocabularies and modus operandi – an

HCI engineer, for example, may judge whether a design is good or bad according to different criteria to those of a product or visual communications designer. To design effectively, each will need information of a different kind and may prefer it in different formats, media and through different routes.

But collaborate we must if we are to create products and services that work better for all. Fundamental to this collaboration is the sharing of ideas not in the fragmented manner that characterizes many product and service development projects but in a cross-disciplinary way. One that recognizes the special skills that each partner can bring at each stage of the operation yet nevertheless integrates them in a creative brainstorming process where user, designer and engineer meld their skills and expertise to jumpstart the innovation process and then work together to realize the potential of the ideas they jointly generate.

1.1 The DBA Inclusive Design Challenge

The annual DBA Inclusive Design Challenge now in its seventh year, is framed around such a process. It was conceived as a knowledge transfer mechanism in the form of a mentored competition aimed at the professional design community in the UK. The aim is to alert them to the innovative possibilities of the inclusive design process and enable them to integrate the skills they acquire through participation into their working practice. Designers were targeted primarily because they are poorly served in information terms by existing conventional text-based formats and guidelines on inclusive/universal design. They find that such guidelines are unnecessarily prescriptive and do not address their need for stimuli – the all-important and often unconventional creative triggers that inspire new design ideas and avenues of exploration and encourage them to engage with the subject in the first place.

The high levels of dyslexia in the creative industries [1] underscore the importance of such alternative ways and formats for designers where knowledge of the subject is delivered experientially rather than theoretically.

Age and empathy are two other issues – how can designers be encouraged to engage with those who do not fall within the conventional marketing-driven focus of their work - the able-bodied 18-35 year-old market segment of consumers who are so much like themselves? The design profession in the UK is overwhelmingly youthful with 62 percent of designers aged under 40 with 30 percent of these in their twenties. A further 62 percent of the total are men with only six-percent from minority ethnic groups [2]. It is not a recipe for inclusive thinking particularly where age or disability are concerned. The associated discipline of marketing is similarly youth-centric with only five-percent of overall marketing in the UK is targeted at older consumers. Another factor underlying this designer focus is the dominance of the UK design industry by small independent companies working with national and international clients with high rates of mobility [3]. Since it is their job to simultaneously ‘pitch’ for work, respond to a client’s brief and provide design solutions to it, designers have the potential to play a key role as continuing advocates of inclusive design, irrespective of the design firm that employs them.

1.2 Disability as Creative Trigger

Seven full-scale challenges have been held since 2000 involving over 350 designers. A key element is the involvement of disabled people, not their traditional, limited role as ergonomic test subjects but as design partners. Disability is viewed not as a restrictive status quo but as a creative state, that can supply designers with a set of stimuli and creative triggers alongside the essential ergonomic and contextual information they require. The routine difficulties experienced by disabled people in their interactions with the designed world; the strategies they adopt to circumvent them and their aspirations regarding design have proved to be treasure house of ideas which have inspired the participating designers to think laterally and innovate significantly even in such areas as mobile phones where the saturation point for new design ideas would appear to have been reached long ago.

1.3 The Challenge Format

The Challenge takes place over a period of five months, replicating the span of the average design project. Until 2006, the brief was general rather than prescriptive and focussed on mainstream solutions in areas that the designers wished to investigate and were pertinent to their design speciality. In this way, any lessons learned are immediate and applicable. In the 2006/7 Challenge a further brief relating to ‘Slips Trips and Turns (STATS) was set by the National Patient Safety Agency (NPSA), a branch of the National Health Service in the UK. The shortlisted design teams are obligated to produce a six-minute final presentation in any media for public presentation at the Awards event that marks the end of the process. Many have gone on to produce display prototypes to accompany their presentations. It is here that the designers have professed a sharp learning curve since in larger firms briefing clients or ‘pitching’ new ideas to them may be the responsibility of the creative director or new business manager not the designers. However, it was felt that by emphasizing the importance of communicating inclusive design alongside designing inclusively:

- 1) Designers, creative directors and business managers could become effective advocates to their future clients of inclusive design strategies and solutions.
- 2) The restrictions imposed by a time limit of six minutes for the final presentation would be a self-editing mechanism to ensure focus on the key design issues which would in turn eliminate the tendency to produce complex solutions that were unworkable in mainstream product, service or latterly visual communication terms.

2 The Development of the Challenge Workshop

In January 2005, the author was asked to work with Sieberthead, a specialist in structural packaging design and branding and the Henley Centre, the strategic futures and marketing consultancy to devise a three-day innovation workshop for staff of the multinational giant, Reckitt Benkiser. Sieberthead had participated in the Challenge twice [4] [5] and been impressed by the creative stimulus, rapid knowledge transfer and internal teamwork the experience engendered. They felt that this was directly

transferable to other contexts and would benefit Reckitt Benkiser’s internal design team and their new business, marketing, sales and R & D teams. The focus was more on packaging innovation than inclusive design per se and the workshop was structured accordingly:

Day 1. (Background)

- a) The business case for inclusive design - demographics and marketing trends and forecasts (Henley Centre)
- b) The creative rationale for working with extreme users. (HHC)
- c) Case studies (HHC)
- d) A ‘Reality Check’ video recorded previously showing six ‘extreme users’ interacting with and commenting on Reckitt Benkiser products. (HHC)
- e) A simulated experience of disability in a restaurant context. (The menu was printed in an ornate nine point font in white on pale grey. Participants exchanged spectacles or wore ‘sim specs’ to order their meal, which they ate in dim light wearing thick rubber gloves to hamper dexterity).

Day 2. (Idea Generation)

- a) Facilitated team workshop with extreme users with different disabilities (HHC + S)
- b) Brainstorming and evolution of new product ideas (HHC + S)
- c) Presentation of concepts (HHC + S)
- d) Joint critique of ideas by users, experts and participants (HHC + S)

Day 3. (Refinement of concepts)

- a) Refinement of the concepts (All)
- b) The six ‘Reality Check’ users critiqued the concepts and selected 18 for potential future development.
- c) Feedback on workshop content.(All)

2.1 The Role of Visualizers

This workshop established the basic blueprint for the company context viz; elucidation of the business case; experiential simulation of disability; observation of product use by and brainstorming with extreme users and the visualization and presentation of new concepts. One element was lacking. Of the 30 employees present only one was a designer. The brainstorming sessions with users produced a large number of ideas but none of the participants bar the designer could sketch them convincingly as they were generated and then amend and refine them sufficiently for assessment and further development. For the user forums held for the DBA Inclusive Design Challenge, the design teams sketch or storyboard ideas and are able to progress concepts significantly during these two-hour sessions. The lack of such ‘visualizers’ in the Reckitt Benkiser workshop hampered progress. Their involvement is now integral to collaborative workshops involving participants from disciplines other than design but with expertise in other areas. Cross-disciplinary knowledge sharing is vital to the development of broad-based inclusive design concepts but participants may not share a common conceptual language or focus. The ability of designers to synthesize and visualize overall concepts, storyboard them and generate multiple scenarios has proved invaluable to this ideation process, irrespective of who

is involved. It has enabled concepts to be explored with a greater degree of sophistication and detail than might otherwise have been possible and lifted them from the realm of theory to explored and practical possibility. It is now a key element of the Challenge workshop format.

2.2 The 24 Hour Inclusive Design Challenge

A further element was trialled at the INCLUDE 2005 conference at the Royal College of Art. In the design industry, inclusive design is widely perceived as a time-consuming process centred exclusively on age and disability that rules it out of consideration for many short-term projects with a different consumer focus. This begged the question as to whether a quicker format could provide an effective way of generating innovative ideas and signal the advantages of an inclusive approach to designers and design managers from a broader innovation perspective, irrespective of the project at hand. Five teams covering product, telecommunications and interaction design entered the 24-Hour Inclusive Design Challenge. Although led by single DBA member firms, the teams included freelance designers and others. Each worked with a single disabled user and had to present their response to a prescriptive brief within twenty-four hours to an audience of three hundred of their peers with the winner decided by audience vote.

The brief centred on solving ‘a clearly defined public transport issue that currently limits or excludes a disabled or older person from using it.’ The design teams could meet their assigned user in advance to document contextual information but did not know the theme of the challenge. The users represented a spectrum of disability to ensure a breadth of design solutions. The winner by popular vote was the Applied Information Group (AIG) team who had worked closely with a visually impaired composer and his guide dog to develop a wearable navigation device called Babelfish that would give sonic clues and feedback in large transport termini and form part of a wider service accessed via the Internet and mobile phone. Other entries included a modular suitcase system, a gel-filled rubber device to bridge the gap between platform, curb and vehicle, a smart ticket holder and PET –a Personal Excursion Ticket that would allow travellers to access plug-in services [6].

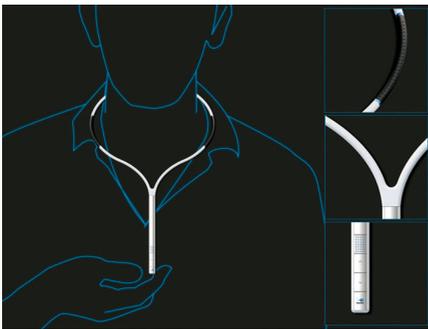


Fig. 1. Babelfish and the winning team with their lead user at the INCLUDE 2005 24 Hr Inclusive Design Challenge

2.3 Mixed Discipline Collaborative Workshops

To further explore the effectiveness of this evolving Challenge model a one-day workshop was organized in January 2006 in collaboration with the College of Occupational Therapists (COT) – the 20,000 strong body for a profession in the UK. Its aim was to bring together occupational therapists and the aids and equipment manufacturers who supply their clients. [7] The sector is characterised by low levels of R & D, small profit margins and low design standards. The participants were well versed in the importance of the functional aspects of design and the specific needs of their disabled clients but less aware of the impact and stigma of poor aesthetic design or of how to mainstream their products.

The day was divided into two discrete elements – a morning devoted to presentations which emphasized these aspects and delineated the business case for inclusive design through case studies of good practice from industry. In the afternoon five teams had ninety minutes to come up with an inclusive product solution to the design problem set by the disabled consumer on their team. Assisting them were ‘visualizers’ – RCA/HHC graduate designers who could help the team evolve their ideas. The ideas presented ranged from the ‘Loomerang’ – a portable, inflatable toilet seat, to the winning design for reconfigured CD packaging. The crucial role of the visualizer in this attenuated time frame was unequivocal – their ability to synthesize ideas given by team members with different backgrounds, viewpoints and expertise enabled credible design solutions to be evolved and presented in a short period of time.

2.4 Immersive Workshops for Students

Since then, three further workshops have been held for industrial design students in Israel and Human Computer Interaction (HCI) and students of other design disciplines in Japan. The basic framework mirrored that of the Reckit Benkiser workshop but the contextual content was changed to reflect the different needs of the participants and their lack of design and design management expertise. There was less emphasis on the business case for inclusive design and more on methodologies and process but with major stimuli provided as before by users.

In Japan, the students worked with users with severe disabilities while in Israel they were required to go out and find individuals or groups whose situation encapsulated design problems they could address. The three-day workshop centred on a concentrated experience of user-centred research methods culminating in a group design project by each team.

While the basic elements of the workshop remained the same, it was structured to take account of the students’ inexperience in design and project management and move them through the different stages of understanding so that they could arrive at a viable solution within a strict time frame and communicate it effectively. The Japanese student teams had a balance of participants from engineering and design including visual communication to ensure that the latter aspect was covered.

The following activities were preceded by presentations by the author covering the context of inclusive design, ‘quick and dirty’ ethnographic research methods, multiple scenario-building and presentation techniques. The students were required to:

- Analyse design failure
- Reconfigure or enhance existing products to become more inclusive

- Source and document vital contextual information from diverse users and contexts
- Isolate design opportunities from this information
- Develop multiple scenarios and the ability to storyboard them
- Effectively present their ideas within a strict time limit.

The workshop culminated in presentations by the students with two prizes awarded – one for the best idea, one for the best presentation. For the latter, the students were shown examples of effective presentations from previous Challenges and the author’s template of a Powerpoint presentation that combined simple but striking imagery with a minimum of text. Throughout the three days, team members were required to take turns at presenting their findings at each stage and given critical feedback on their effectiveness. In both Israel and Japan, this tactic resulted in the rapid improvement of their presentation skills.

2.5 Problem Areas

One difference noted was while the Japanese students were able to isolate and document problem areas related to their individual user in great detail, extrapolating a design direction from the mass of information gleaned and then creating multiple user scenarios around it in order to arrive at a mainstream product or service idea proved difficult. (This was also the case for the teams of inexperienced designers competing in the 48 Hour Inclusive Design Challenge in Singapore described in Section 3.) The Israeli students were more flexible in their approach, which may be due to the cultural complexity of their society in contrast to the more homogenous nature of Japan and the prescriptive nature of its education system, the latter of which is also true for Singapore. The Israelis were not assigned extreme users but were free to choose their own, thus there was a level of selectivity compared to the more stringent conditions of the Japanese workshops and the Singapore 48 Hour Challenge.

Cultural differences aside, however, this stage has proved the most difficult for all groups where the participants lacked professional design experience or were experienced but with only a single element of the design process not the whole project span. However, it has not been the case for teams led by experienced designers in any of the Challenges or Challenge workshops to date.

3 The 48 Hour Inclusive Design Challenges - Japan and Singapore

In October 2006, the author organized a 48-Hour Inclusive Design Challenge as a keynote event at the 2nd IAUD International Conference on Universal Design in Kyoto. This was followed in January 2007 by a similar initiative to launch the Singapore Fringe Festival. Both were based on the model of the 24-Hour Inclusive Design Challenge at INCLUDE 2007 in which competing teams of designers worked with a single disabled user. Identical in structure bar one important element, the two events nevertheless had quite different results. In Kyoto the five teams were composed of young in-house designers from IAUD member firms with each led by a highly experienced veteran of the DBA Inclusive Design Challenge. Four of the five lead designers ran their own design consultancies in the UK and despite the different cultural context and language barrier, steered their teams to a set of innovative solutions and accompanying presentations of a high quality. In Singapore only one of

the eight teams, a leading advertising agency, was similarly experienced and they won the event. The qualitative difference between theirs and the other projects was striking. Their subject was a female amputee and wheelchair user on dialysis and their six-minute film on their design of easy-to-wear underwear with an accompanying communications campaign to launch the range was of an equivalent standard to the Kyoto proposals. It demonstrated what is possible within a short period of time where experienced designers are in charge, with one proviso. Of the five designers invited to lead the teams in Kyoto, two were product design specialists, one an interaction designer and the final two worked in visual communications and branding, disciplines which are more culturally specific in terms of content development and less process-driven than product design. The visual communications designers found the different cultural and linguistic context challenging and experienced difficulty in pacing their teams to reach a final result.

Figure 2 shows some examples of the 48 Hour Inclusive Design Challenge. The top left is Audio Sphere, a communications device inspired by a hearing impaired user. The top right is ‘u-control’, a customizable remote control. The bottom right shows a Tag Wear system, an embossed clothing tag system indicating size etc, both projects inspired by blind consumers. All three projects are from the 48-Hour Inclusive Design Challenge in Kyoto. On the bottom left are Wunder panties with a side fastening and removable crotch that won the 48-Hour Inclusive Design Challenge in Singapore.

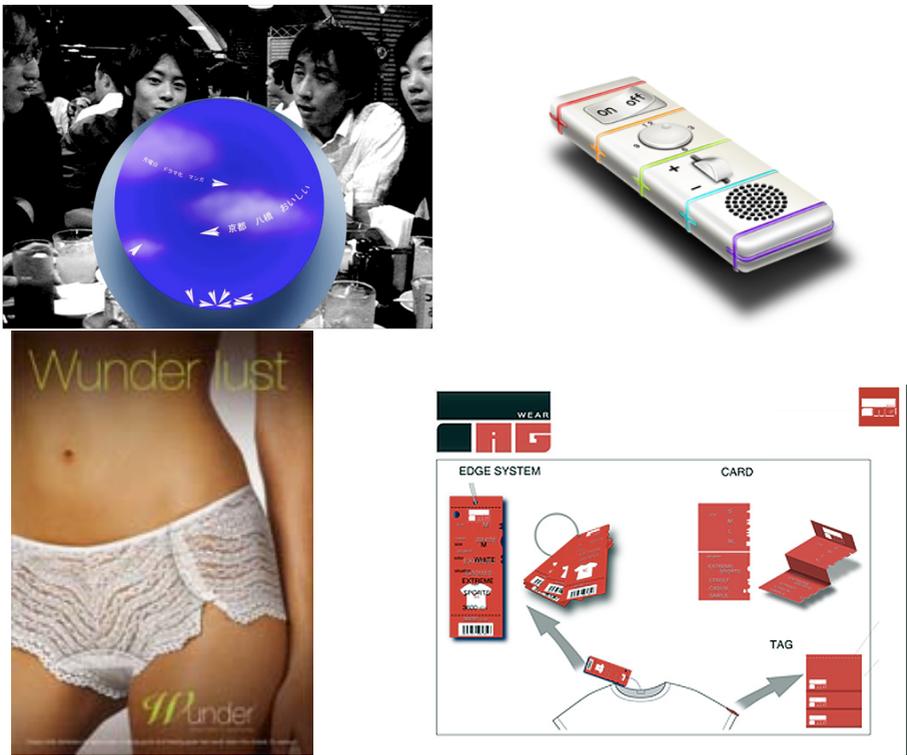


Fig. 2. Exemplars from the 48 Hour Inclusive Design Challenge in Japan and Singapore

4 In Conclusion

In its different iterations, the Challenge model has proved effective for concentrated knowledge transfer irrespective of cultural context where the process is well-structured and pertinent to the participants' situation. The original five-month long DBA Inclusive Design Challenge centres on professional designers in the UK. The mentored input consists of designer briefings, a joint workshop for the shortlisted teams, a project-specific user forum for each team and visits to them by the author at different stages to monitor progress and give critical feedback. The production of a convincing six-minute film of their design process and prototype constitutes a communications challenge in its own right particularly for product or industrial designers for whom it is unfamiliar territory. However, the need to create a convincing narrative around the design proposal reinforces the team's own research into inclusive design and ensures that the greater context is grasped and detailed information sourced and retained on the project area. As a result, the ability of team members to be formal advocates for inclusive design to their clients rises accordingly. This is clearly not feasible within the time constraints of the 24 or 48 Hour Challenges whose value lies more in shifting the focus of inclusive/universal design away from age and disability alone (Japan/UK), repositioning it as an innovation process (Japan/UK/Israel) demystifying and raising awareness of it (Singapore, UK, Israel) and positing a new relationship with disabled users (All).

The prototypes that result from the five-month Challenge reflect high levels of sophistication and detail and the winning proposals set new standards for inclusive innovation. Some of the concepts generated in the 24 and 48 Hour Challenges are of an equivalent standard even where they understandably lack fully realized detail. It could therefore be argued that the longer time frame is unnecessary for idea generation alone where the designers are sufficiently experienced with all aspects of a typical design process.

The provision of a different focus from the routine commercial expression of a brief through the medium of the participating extreme user, forces designers back to a first principle position where they must subject each concept generated particularly the nature of user interaction with it. This trigger has provided the richest source of design ideas for all participants irrespective of their professional experience or Challenge format. Where designers however are inexperienced, the guided process described in 2.3 of the longer immersive workshop is crucial to the participants' ability to provide convincing examples of inclusive design that is mainstream in nature.

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