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Keith Robertson
Swinburne University
KRobertson@groupwise.swin.edu.au

Building the Design Profession through Honours Research

Introduction

This article is concerned with the role of the Honours year in modern design faculties. Honours year across the university sector fosters the development of research in order to attract the best students into further postgraduate study. In relation to design, we must ask what sort of research might be taught in order to foster best practice. Through this discussion, we should also speculate on how research practice might influence the professional development of the designer, and the expanded role of service research driven design might offer the world through industry and the expanded view of culture. Related to this discussion of design research is the role of the Honours year. Design education, at this particular transitional time in history, is moving from a profession which has traditionally delivered artifacts defined by their visual and technical functionalities to research informed and contextualized advice leading to more reliable artifacts that portray a wider sense of service to industry and society.

Since the 90s successive Australian Governments have encouraged and rewarded the consolidation of research and postgraduate studies in Australian universities. For many disciplines, especially those vocational ones that have most recently been incorporated into the university system via technical and teachers colleges, this has not been a straightforward transition. In the Australian context the last policy document setting out expectations for Honours year was written in 1957. For some disciplines in Australian Universities it is a capstone year to crown undergraduate study. For others it is essentially an introduction to research and original study (Zeegers & Barron, 2008). The following paper is written from the perspective of a Communication Design academic, teaching Honours research in the Faculty of Design, Swinburne University, Australia. Swinburne Faculty of Design (SFOD) is in a unique position in Australia as a stand-alone Faculty of Design not attached to Fine Art disciplines. This unique status has allowed programs and their related research methodologies to develop according to principles appropriate to design with its unique social, cultural and industrial contexts. Design has a role and relation to the world that is essentially one of service. In this sense, it is uniquely different to art and it should be recognized and judged by different criteria. The honors year is key to the development of a strong research program as it is the transition between undergraduate and postgraduate study.

Design research

The last two decades have been challenging for design academics. In the late twentieth century, there was an international trend for universities to incorporate technical colleges with their emphasis on practical learning and training for industrial jobs – many of them in the creative industries. Universities have different expectations to the more vocational oriented programs and more recently, they are expecting these previously applied courses to deliver academic results. Staff and students are challenged by this transition. There were very few doctorates among those early design academics and in most design faculties there are still fewer than in traditional academic disciplines. The union of the practical with the academic is not straightforward and there are emerging many different models of combination of theory and practice. The designer is moving from artisan to academic and is effectively professionalizing the designer's role through formalizing qualifications and most importantly insisting on the use of research methodologies to produce rationalized outcomes that can be supported by research.

The exploration of the role of research in design is not new, but most relevant to contemporary practice is the debate generated from the nineties. Some of the key contemporary design writers have addressed this area. The broadest design genealogy is by Richard Buchanan, who traces the origins of design in western thought, but quickly focuses on the opening out of design disciplines through their need to contextualize and incorporate broader social concerns than had traditionally been accommodated through fine art methodologies. Buchanan describes this current phase of rethinking design as revolutionary in dimension. "The argument for the reordering of design is simple and clear. It is certainly important that designers know how to create visual symbols for communication and how to construct physical artifacts, but unless these become part of the living experience of human beings, sustaining them in the performance of their own actions and experiences, visual symbols and things have no value or significant meaning" (Buchanan, 2001, p. 11). In *Designerly Ways of Knowing*, Nigel Cross provides another longitudinal study of design in the twentieth century, but emphasizes the ebb and flow of science and scientific methods in the recent development of design thinking (Cross, 2001). Ken Friedman develops the idea of design knowledge as a research informed mentality better equipped to create more meaningful interventions through design practice (Friedman, 2000). Specifically in relation to graphic design, Jorge Frascara since 1988 has been asking graphic designers to recontextualize their role as communication designers to incorporate a social dimension to their methodological operations and outcomes (Frascara 1988, 2004).

In 2007 the first subject teaching research methodologies *Methods of Investigation* was introduced to the SFOD undergraduate curriculum. *Methods of Investigation*, still taught in first year, is still the only discreet methods subject undergraduate students take until the Honours year. Honours is an important year in the contemporary university because postgraduate study, both coursework masters and doctorate study, are proportionately the greatest growth area of student numbers. Certainly at SFOD there has been an exponential growth in doctoral study. In the honors research subjects we are finding that students give feedback that is increasingly accepting of research as part of design.

The best aspect of this unit was how it allowed us to follow and research our own personal interests in the field of design. Also having a client as a basis gave us a brief to work towards which i found helpful in giving us a starting direction.

More professional writing. Research was undertaken at a whole new level as compared to even in 3rd year.

I felt like I have really accomplished something that I'm proud of through this unit.

The opportunity to discover new aspect of design and explore passions in the research field

Student Feedback entries Semester 1, 2011

The Honours year in SFOD is constituted of eight subjects, half are devoted to research – two related subjects where semester long themes (Social Patterns and New Technology) are developed through secondary and primary research. Each semester, students produce a literature review in larger groups and a Design Research Proposal in smaller ones, along with individual participation in a discussion board where they review and discuss peer reviewed journal articles. In a parallel research studio, students produce practical outcomes generated and informed by their research driven proposals. By the end of honors year students will have participated in the writing of two Literature Reviews, Design Research Proposals, Discussion Boards, been exposed to and administered at least six research methods, written formal Research Information Statements and Consent Clearance Documents as well as producing design outcomes informed by research findings. I will give some examples of these projects and outcomes, but first I will present a rationale for the research our students are conducting and the value this is adding to their

research experience as preparation for postgraduate study. I will also portray how research might improve the quality and relevance of further design output in a social and industrial setting.

Over the past decade or so, design Honours programs have changed paradigms. Ten years ago design education was output and folio oriented. The orientations, based on quality and value were roughly parallel to those of fine art, who placed similar values on interpretation and output. Today, design is research oriented – where the process and the justification for action must be substantiated and supported by primary and secondary research rather than concentrating on outputs produced through instinct born from the experience of learning and past practice.

There is a general debate around design research within what are mostly art and design faculties. Fine art research is usually the oldest and often dominant partner in postgraduate research, and either out of seniority, or the wish to ideologically control faculty output, the art and design paradigms are treated as if they are in alignment and treating the same issues. I would argue that such an alignment ignores the difference between the disciplines – especially those qualities of social service in design that distinguish design as a completely separate discipline. Design philosopher Richard Buchanan described it this way in 2001: “The legacy of the art schools of design ... grows fainter every year under the need for young designers to have more knowledge and a broader humanistic point of view in order to deal with the complex problems that they must face in their professional careers” (Buchanan, 2001, p. 6). There are of course many shared characteristics between art and design relating to technologies, production, reproduction and aesthetics, but when the purpose is differently motivated and outcomes serve another functionality, the argument for shared methodologies quickly slips away.

The case for research in design

In relation to design, ontological positions determine the sort of design you are likely to produce. Up to the 90s vocationally driven programs tended to be outcome oriented. They concentrated on expertise and practice as a rationale for production. Jorge Frascara (one of the most enthusiastic advocates of communication design as a social science) describes this early period as placing “... too much emphasis on the graphic, physical element and omits more essential aspects of the profession – the main aim of which is not the creation of graphic forms but the creation of effective communications” (Frascara, 2004, p. 4). Since the 90’s, design has tended to be socially and culturally oriented in understanding the values of the ultimate user/consumer. Around this time many programs changed titles from graphic to communication design and this opening out tended to reflect a broader and more contextual orientation. Rather than seeing design as a product of their own insight and expertise, the new designers value greater objectivity in understanding the design context and the social reality of what they are designing for. Instead of adopting introspective, heuristically driven methods that trace and dissect their own practice, designers now tend to adopt methods from the social sciences that will give holistic understanding of design as a part of broader social communication.

In relation to design research there is yet to develop a strong ontological consensus – not that universal consensus is usual in any field, but there usually do develop two or three dominant positions based around ontological positions. Science has long been posited as an ideal model for design and since it is a shared paradigm with many related disciplines it is logical for design to adopt scientific methods when appropriate. In the case of design, scientific methodologies were first proposed in the 1960’s (Jones & Thornley 1963; Simon 1996). Most important is that science is good at asking the how questions and has developed a number of well established and trusted methods of reading the material world. Design however is nearly always concerned with reading the social along with the material world and demands a more nuanced and finely tuned reading – which is why the social sciences have developed qualitative methods – and these are approaches that give insight into design context as well.

The Swinburne Program offers the following quantitative and qualitative methods for students to use in their Honours research:

- Questionnaire/Surveys On and off-line
- Interviews Structured and Unstructured
- Case Studies
- Focus Groups
- Observation
- Content Analysis
- Cultural Probes

We also encourage secondary research, especially in academic journals and the use of reported findings if relevant to their topic areas. These are reported back through the literature review. For ethical reasons, students are restricted to conducting primary research among only fellow students in the faculty and family and friends, so we encourage them to choose research problems that relate to these restricted demographics. Strict ethical conditions and protocols apply.

Discussion Board is used to encourage students to read peer reviewed literature. In first semester eight readings were chosen that discuss research in design, the nature of research and an introduction to some key methods in use in various articles (Friedman, 2003; Cross, 2001; Hanington, 2003). Content analysis, the use of visual evidence in research and Cultural probes are covered in this way (Gaver et al., 1999, 2004; Vigorito & Curry, 1998; Pahl, 2006). In second semester Discussion Board is more content driven with more theoretical themes developed on technology and activity theory (Bolter & Grusin, 2000; Hanington, 2007; Kaptelinin et al., 1999; Engeström, 2001). Methods are taught mainly through a 'Methods Links' document that connects students to many of the excellent web resources available via the net. All methods, questions and interview schedules, information statements and consent forms are checked by staff before going public.

In relation to the Honours program taught at SFOD, I would posit five main points that help determine a successful research program:

1. That a range of research methods be offered that compliments the issues being encountered in the research problems around which students are designing outcomes.
2. Methods offered are shared and therefore understood by other disciplines with which designers are likely to share their outcomes. It is important that design research has the same credibility as research conducted in other disciplines and that it be judged and tested by the same standards and criteria.
3. That design be judged not by the standards of the designer but by the users of the design and that methods be used to improve and clarify this understanding.
4. Design research allows all methodologies to be judged on their appropriateness to the task and the answers being sought. There should be no restriction based on ideological preference.
5. Students should be encouraged to develop a critical awareness of research methods and apply this to their own research and that of their peers.

Having the ability and capacity to understand and conduct research methods has the effect of empowering Honours students through giving them knowledge and authority over the social content of the design problems, the design solution or application. By the end of semester students are able to account for their design decision-making through research driven rationales that make for more confident and authoritative presentation of ideas – more sure of both the content and the outcome.

Examples of Honours research briefs

Following are four abstracts that describe research projects adopted by Honours students in relation to Social Patterns at SFOD. I have chosen these four abstracts because they illustrate the remarkable diversity a student research motivated approach can generate to exploring a general topic such as Social Patterns. They also show how the use of relatively few, easily learned and applied research

methods can lead to the development of sophisticated insight, diverse analysis and interesting design outcomes.

1. Shelf-to-mouth: Addressing the universal accessibility of everyday products

This paper explores the universal accessibility of existent packaging of everyday common-use products, and looks towards presenting a design solution based on the principles of universal design that corrects any inaccessibility they pose, particularly when addressing their use by a person with limited or restricted mobility. Prior research has revealed the issues of restricted accessibility of environments and the perceptions of the disabled that physical and emotional exclusion perpetuates. Having explored both the benefits and limitations of Universal design as a practical base for a solution, we saw the need to address the scope of the term disability and define it in accordance with our research and objectives.

Our research encompasses those who maintain autonomous physical function through the use of assistive technologies or mobility aids, e.g. wheelchairs, canes, artificial limbs, etc., whilst retaining full cognitive function and abilities of rational reason. Having identified, and conducted secondary research into our design problem, we established what constitutes an everyday product in this context, and then identified any limitations an everyday product may pose to use by the disabled. A survey of members of the general public suggested a range of everyday products, which were then means-tested through body-storming and heuristic evaluation.

The key findings informed a potential design solution to the packaging of wrapped chocolate bars, which we deemed to be the most troublesome in terms of universal accessibility. Our proposed design solution does not definitively create a packaging solution, but rather identifies which aspects of wrapped chocolate bars prohibit universal ease of use and where possible introduces potential solutions. Primarily we supply the manufacturers with the tools necessary for they themselves to address and begin to solve the inaccessibility of their product. Beyond the research conducted in this paper, we aim to assist in the development of a definitive design solution for wrapped chocolate bars, whilst continuing to evaluate the universal accessibility of other everyday products.

‘Shelf-to-mouth’ was a very practical approach to a packaging problem. The research group discovered this topic through the secondary research they conducted through their literature review and produced a robust critique of current packaging practice that was informed by their triangulation of research. In this case, the standard of secondary research sources allowed the group to commence from an already informed and sophisticated level of analysis and added to this, a survey followed by laboratory testing of their prototypes and refinement of their design outcomes. The project gave the students the initiative to locate and respond to an important social problem – not simply responding to client and market motivated needs. This is an excellent example of research driven and tested problem solving.

2. Escalating Incivilities: Frustrating, Impolite, Disconcerting

This proposal presents an investigation into low-level incivilities in Melbourne. By observing personal positioning among pedestrians in areas with heavy foot traffic such as Melbourne Central, Swanston Walk and Bourke Street Mall it was discovered that incivilities are more common in areas where population density is higher. More specifically areas that have multiple functions, for example Melbourne Central – this complex acts as a train station, shopping center and a popular meeting destination – the lack of directional tools and unpredictable traffic flow means that incivilities are successive. These incivilities can decrease the quality of life in urban environments.

Informal Social Control techniques are used by pedestrians to express their frustration or disapproval of the acts of those around them. Whether these

are expressed verbally or displayed through body language they are still clear. These Informal Social Control techniques are most often used to address incivilities. This proposal seeks to use Informal Social Control as a design device, to ease congestion and decrease the number of easily preventable incivilities encountered on a daily basis.

Observation was used to determine areas and decipher users, personas were created to categorise the user and establish their needs. A cultural probe was introduced to acquire more personalised responses and a series of visuals to gain further insight into a cross section of Melbournians. Surveys were used to generate quantitative data in relation to a range of incivilities. Findings from the above methods allowed for potential solutions to be discovered that when implemented will have a ripple effect of benefits for all that inhabit and use the space that is Melbourne Central.

'Escalating Incivilities' is an example of how social research opens out the scope of Communication Designers to the wider interests of public behavior and social control. In this case, students explored sophisticated notions of behavior modification mainly through un-obtrusive ethnographic methods. The creation of visual and descriptive personas is also something design students are well equipped to provide. This sort of research visualization communicates the ideas behind the research particularly well to a client who might be a public authority or retail center management. This group also creatively adapted the idea of the Cultural Probe to a specific location to more subjectively read users reactions. Design students tend to apply their creative and, adaptive tendencies through methods applications.

3. Project Blanket: An investigation into the perceptions of personal safety of the Melbourne train network by commuters.

This document explores perceptions of safety in Melbourne train commuters compared to lived experiences with safety and security using trains. It presents an analysis of links between perceptions of personal safety on public transport and compares these with lived experience of commuters. The focus of the work is a survey of young people using public transport in Melbourne Australia.

Through secondary research and literature reviews focusing on young people (generation-y) and their relationship with the Melbourne train network along with their perceived thoughts on safety, a clear research gap has been established; this document aims to explore whether safety on trains is a 'genuine' problem of whether it's perceived by the commuter and how prevalent a reason this is for commuters to avoid catching trains in Melbourne.

Research methods have been used to explore different aspects of the issue, while aiming to gauge the best approach for the target audience. Through conducting online and ambient surveys, cultural probes and observation a broad perspective is gained in realizing the extent of the issue, views and experiences of the target audience, as well as potential responses to proposed solutions. The primary research analysis revealed that while safety was an issue among commuters, particularly whilst alone at night, it was more of perceived fear than a reality. It was revealed that a more significant problem existed; Commuters disclosed that their problem lay mainly with the delivery of service. Through further analysis of primary research the specific design problem was re-established; Current expectations held by commuters regarding service delivery during peak times.

The proposed solution is to create a media intervention that aims itself at managing the expectations of Melbourne train commuters.

'Project Blanket' is an example of students' experimentation with research triangulation – each method informing the content of the next research application. Even the initial survey helped to refocus the core issues of the study away from safety towards reliability of service. As with the previous

abstract, this group has creatively adapted the Cultural Probe to become a location and situation specific method where transport users can collect subjective observations. This was a sensitive and reflective alignment of research methods assisting the evolution of the design problem.

4. Journey into the unknown

Statistics demonstrate that Australia's aging population has seen age-related disabilities, especially dementia, emerge as a major health concern. In 2005, it was estimated that there were over 188,000 people living with some form of dementia in Australia (Nepal, 2008). Symptoms of dementia include impaired perceptual skills, which may result in difficulty distinguishing "left from right or differentiating between shapes and sizes," and the loss of the higher cognitive skills needed for "decision-making, spatial planning and mental mapping" (Blackman et al., 2003, p. 361). Evidence further highlights that individuals with dementia have difficulty independently wayfinding within city environments, amplifying the confusion and disorientation they are likely to already experience.

Problem Statement

When designing for individuals with disabilities, far more consideration is given to those with physical disabilities as opposed to mental disabilities, including dementia. The tendency for designers and urban planners to overlook the specific needs of individuals with dementia is likely to be the result of a lack of awareness, rather than direct negligence or indifference (Castell, 2008).

Methods

The research methods utilised were online questionnaires, interviews and observation. Questionnaires were sent to students studying architecture, communication design, film and television, industrial design, interior design, landscape architecture and multimedia design. The aim of the online questionnaire was to determine this group's existing knowledge and awareness of mental disability and more specifically dementia, and the consideration this group gives to individuals with dementia when developing designs in their selected field. Interviews were conducted with males and females outside of the design community in order to ascertain their level of awareness of dementia and their opinions regarding inclusive wayfinding in the city. Observation was conducted of selected areas in the Central Business District of Melbourne, inner suburbs, outer suburbs and regional Victoria. This research method was carried out in order to establish the standards of the current wayfinding features in each environment.

Results

Findings from the triangulation of research methods delivered results that complemented each other. It was initially hypothesized that the lack of inclusive wayfinding systems for individuals with dementia was the consequence of little to no formal education on this issue rather than intentional negligence of designers. This theory emerged because a criticism of design made by people with a disability is that they are not consulted by planners and designers, leading to the assumption that this group are deliberately overlooked (Blackman et al., 2003). Results from the online questionnaire support the theory of little to no formal education on this issue, with 88% of participants indicating that they were never required to investigate the needs of individuals with a disability during their tertiary design education. It is worth noting that this is due to the design of the tertiary education curriculum, rather than the accountability of the students themselves. During the interviews, when asked to explain symptoms of dementia, participants were most likely to refer to memory loss. In fact, memory loss is only a single symptom of dementia. This highlights that the wider community has a limited understanding of dementia and also the needs of individuals with dementia. Through the observation conducted it was realised that the implementation of wayfinding systems and navigation

aids does not necessarily make the area more accessible, particularly for individuals diagnosed with dementia.

Conclusion

The proposed design solution will require approximately 10 years to have an effect before it can be deemed successful, or otherwise. Whilst there are potential drawbacks to the implementation, the potential benefits seek to counteract these. The proposed solution provides designers and architects with the opportunity to 'Learn' about dementia and the needs of an individual with dementia and 'Trial' an experience that their subject would have difficulty performing. These two categories seek to enable designers and architects to view the project they are designing from a more accurate point of view. It is anticipated that further research will need to be conducted in both the short-term and long-term, with the review gauging the progress that has been made since the implementation of the design solution. From the review, it is predicted that designers and architects will have a greater understanding of the needs of individuals with dementia, with the city environments being better adapted to the needs of dementia sufferers.

It is unusual to find young designers who elect to investigate a difficult topic such as dementia. It is not surprising that their research exposed a general ignorance of mental disabilities among their peers. Their research produced a self-reflective solution that identified a general gap in design training. This student group was empowered enough by their research to mount an effective critique of current design practice and enable them to invent an interventionist tool - a set of cards that stimulate systematic thought around more effective design for mental disability. Secondary research (mainly in non-design related medical and mental health areas of study) provided a powerful starting point for this study. The reflexive response of the students in applying this knowledge to their own profession and training opens up whole new areas of potential design practice.

Conclusion

The Swinburne Faculty of Design Honors program has developed under a unique set of pressures and influences. The Swinburne program is probably most strongly characterized by its methodological diversity and a willingness, implied by its research themes, to see design as a social phenomena. This very catholic approach to methodology is re-enforced by a now ten year old employment policy of employing academic staff with PhDs and though everyone relates to design in some way, the faculty now has the disciplines of psychology, sociology, design, design anthropology, fine art, education, business, digital and computer studies and art history represented in its staffing profile. Over the past five years we have seen the successful uptake of postgraduate scholarships for masters and PhD and our own graduates seem well placed to make the successful transition into postgraduate research. This has not always been the case, so honors is playing its part in facilitating that transition and breaking down the prejudice designers have long held against research.

The adoption of research into general design practice necessarily expects designers to change and assumes that industry must also shift its expectations of what design and designers can provide. Design research illustrates that design is above all never superficial but is a fundamental part of social processes that can tap into and connect with human emotions and needs at many levels. The value of research to the design process is something that the SFOD Honours students are generally quick to recognize. The new information and digital age is imposing a time of rapid change, especially for fields at the heart of the technology industries. Design production and distribution has already been revolutionized by new technologies and related social formations. Design is an integral part of what Buchanan calls the process of "... ordering, disordering and reordering" (2001, p. 11) that is occurring around these changes. This sort of change demands a deeper understanding than the old design functionalities can deliver. How much and how quickly the design profession adopts research as part of its design rationale is a matter of debate, but it is a reasonable expectation that the design profession remake itself and that the incorporation of research into design practice will be the major catalyst.

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