Research experience as professional learning and a change agent for design: Two examples of undergraduate participation in design research projects

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ABSTRACT

This paper considers the imperatives of professional learning and research experience in design education. It reports on two research projects that included Honours students in the investigation team. Providing undergraduate students with research experience is seen as intrinsic to the pedagogical success and socio-economic value of university education. Including professional learning, where undergraduate students work in an industry context or on real-world projects, is thought to make learning more relevant and better prepare students for work. Offering Honours design students research experience as a special form of professional learning has potential benefits for graphic design. Knowledge in a vocational field like graphic design is mostly practice-driven, graphic design’s status diminished by designers’ lack of access to systematically produced evidence and exemplars of effective practice. The projects discussed in this paper investigated the use of participatory processes in graphic design. Today, co-creative practices and audience-created content are seen as important drivers of economic activity and cultural innovation, but participatory design is rarely used in graphic design since project budgets and time frames allow little scope for rigorous audience research. The nature of participatory design also challenges graphic designers’ professional identity as creative and communication experts. Our paper reviews general arguments for the inclusion of professional learning and research experience in undergraduate education, considering their implications for design. The paper’s discussion section builds on our findings and relevant literature to present research experience in design education as a potential change agent in graphic design.

INTRODUCTION

Providing undergraduate students with research skills and experience is increasingly regarded as important to their academic success and their social and economic value on graduation (Griffiths 2004; Healey and Jenkins 2006; Healey and Jenkins 2009). This paper discusses the experience of a group of design researchers and educators in the Faculty of Design at Swinburne University of Technology in the inclusion of Honours graphic design students in applied research projects. The students were based in an in-house design consultancy. Exposure to external projects with real clients and real financial, production and time constraints sought to familiarise the students with industry conditions and increase their employability. Sometimes, however, the industry projects available for student involvement are limited in creative and conceptual scope. Involving Honours students in research projects enables a higher level of active, problem-based learning, the scope to challenge received thinking in design making the connection between research and learning a potential source of design innovation. This is especially so in graphic design, a field focused on stylistic innovation and conceptual invention, but which resists new methods due to deep-rooted beliefs about designers’ innate creativity and intuitive understanding of what is needed in a design.

Our paper discusses two research projects in participatory design. The 2007 Safe and Sustainable Indoor Cleaning Project (SASI Clean) addressed the efficacy of and resistance to low-chemical cleaning in Victorian childcare centres. It used participatory design to develop audience-focused information materials and behaviour change strategies. A 2008 project for the Asthma Foundation of Victoria included the organisation’s staff in an audit of information materials on asthma risk and management, investigating a range of participatory design tools. The students’ contribution to the research was real, allowing research skills to be learned in the context of use. The students worked with experienced design researchers and managers and they were integral members of the research and design processes. They contributed to the development of new design tools and translated the knowledge gained from audience participation into design prototypes and recommendations.
I. RESEARCH EXPERIENCE AS INTEGRAL TO UNIVERSITY EDUCATION

Providing undergraduate students with research experience is frequently represented as integral to the pedagogical success and socio-economic value of tertiary education. The Boyer Commission on Educating Undergraduates in the Research University (1998:11) argues that, “Undergraduates who enter research universities should understand the unique quality of the institutions and the concomitant opportunities to enter a world of discovery in which they are active participants, not passive receivers.” The report argues that immersing undergraduates in disciplinary knowledge is important in university education, but increasingly the “skills of analysis, evaluation, and synthesis” are “the hallmarks of a good education (11)”. Research investigation offers synergistic learning and is perceived as the highest level of university learning (Boyer 1998:11). In design education, the self-directed minor thesis often exposes Honours students to research. However, Tynan and New (2009:297) report strong resistance to humanities models of scholarship, which entrenches the emphasis on designers’ identity as makers and the integrity of practice over scholarship, an attitude also found in the design industry. In our examples, immersion in research activity mirrored the grounding of students’ vocational learning in practice. Students worked with academics whose research explored design through rigorous data gathering and analysis, demonstrating reflexive and evidence-based approaches to design.

A. Graduate Pathways in Design

In providing a pathway to a research higher degree, the Honours year takes many forms (Zeegers and Barron 2009, Kiley, Boud, Cantwell & Manathunga 2009). Differing disciplinary needs and student interests have also created other uses for Honours (Kiley, Boud, Cantwell & Manathunga 2009:2). In vocationally-oriented degrees such as design, an Honours year seeks to enhance students’ employability and career opportunities through the acquisition of higher professional skills. Honours may also offer intellectual extension by encouraging students to engage more deeply with disciplinary knowledge and practices (Kiley, Boud, Cantwell & Manathunga 2009). For example, design is often seen as a creative calling as well a job, although for design students the opportunity for deeper aesthetic and conceptual exploration is unlikely to replace a vocationally relevant Honours year.

B. Design’s Strategic Value to Industry?

Honours programs are common in Australian design degrees, but the emergent nature of design research and the limited need for higher degrees for professional advancement means few design graduates currently follow a research pathway in their career. Nevertheless, as societies have become increasingly knowledge-based, a Triple Helix model of university–industry–government relations has emerged, which expects universities to contribute to industrial innovation through knowledge and technology transfer (Etzkowitz and Leydesdorff 2000:29). In Australia, however, the alliance of academia and graphic design has not resulted in significant research partnerships with industry. Rather, the proliferation of graphic design degrees suggests the effect of student pressure to provide qualifications in a popular vocational field (Becher & Trowler 1989).

Internationally, Bolton and Green (2007:6) identify “a disconnection between the strategic importance of delivering innovation to the market and the value of design in delivering innovation to end users; [arguing that] too often, design is perceived as a cost rather than an investment.” Using British research, they argue that the high number of trained designers drives down fees, low fees reflecting business’s view of design as a basic, undemanding craft, not an intellectual or professional activity. For Bolton and Green (2007:6), designers need business training and acumen toforge “a shared platform of knowledge and values with clients and gain better recognition for design.” Research experience would also give designers a range of transferable, high-level problem-solving abilities and knowledge that clients need and would value, enabling designers to take greater strategic responsibility in projects. Bertola and Teixeira (2002: 193) champion the role of design as a strategic tool in organisations by reimagining the role of the designer. Indeed, they argue, “the main challenge for designers and managers is to be able to apply design strategically to access the knowledge embedded in users, organizations, and networks in an effective process to promote and support innovation in any given context.”

The following examples show Honours students’ involvement in research projects that gave them exposure to the emerging role of the designer in identifying and leveraging user knowledge through participatory design.

II. PARTICIPATORY DESIGN RESEARCH IN HONOURS

Each year, Australian graphic designers produce countless designed communications that seek to inform, influence attitudes and encourage action. Some large graphic design studios use marketing information to identify audience needs and perspectives, but most graphic designers work without such knowledge. Three factors influence this state of affairs. Firstly, graphic designers work to facilitate clients’ immediate objectives, downplaying the specific needs and preferences of audiences. Secondly, graphic designers see themselves as communication experts who address defined goals through rational problem-solving (Carroll 2006:6), making audience input irrelevant. Alternatively, graphic designers may align themselves with art and artists, seeing design as driven by innate creativity, inspiration and an intuitive understanding of the design task. Any input into the creative process by non-designers is thus seen as weakening design outcomes.

A basis of evidence for the efficacy of methods and design decisions in graphic design would enhance the field’s validity in the eyes of the social and economic sectors that use its services. Currently, however, graphic design education mostly perpetuates the field’s inward-looking processes. Graphic design students work on hypothetical projects until
they feel their work fits an invented design brief in form and concept. By contrast, the literature on user-centred design stresses the importance of user research and design testing. It represents design as the creation of relationships with people, not the production of things, and offers various methods to help designers identify people’s needs, behaviour and preferences. Among these is participatory design, where representative audience members take a primary role in design. Carroll (2006:11) characterises participatory design as a “major, orienting position in contemporary debates about design methods”, whether the aim is achieving commercial success or respecting people’s right to influence the nature of the things that affect them. Even so, the contribution of audience members to design is contentious (Prahalad & Ramaswamy 2004). Some segments of the graphic design literature question designer-driven and client-focused design, but there are few case studies to back up any rhetorical support for user-centred and participatory design (Frascara 2004). Most examples of participatory design involve the development of consumer products, websites and virtual environments, their methods being a poor fit for graphic design.

The SASI Clean and Asthma Foundation projects saw Honours students working with researchers and prospective audience members over a sequence of three participatory workshops. Both projects explored the nature and application of participatory design methods and involved the delivery of tangible design proposals, project meetings thus discussing questions of research strategy and design strategy. Design issues included the role of the graphic designer in developing tools to enable audience members to design something for themselves; who makes decisions in participatory design and in what ways; and what factors influence group dynamics and how might participatory design accommodate them. In both projects, lay participants were equal contributors in proposing design directions, not mere sources of useful information (Spinuzzi, 2005). Where orthodox graphic design stresses the rapid delivery of formally and conceptually resolved designs, the SASI Clean and Asthma Foundation projects stressed an investment in process and evidence-based design. Students were challenged to negotiate competing stakeholder needs that are not present in invented design briefs. (See Fig. 1) The students gained first hand experience in developing methods to bridge the communication gap between audience members and designers in the aim of harnessing audience members’ knowledge and creativity to the design task.

For the students, involvement in the projects challenged them to consider the nature and value of design methods. One student who took part in the Asthma Foundation project admitted that she “started with preconceived notions and several assumptions” about audience members as designers, “these workshops [being] in my opinion a way of testing our assumptions”. She recognised that although designers do their best to create appropriate designs, “the workshops are the real test, since you don’t know how the participants are going to respond …”. The blunt comments of participants in the Asthma Foundation project showed the students that past designers had not drawn on staff members’ expertise in designing information on asthma risk and management where critical incidents and even deaths are a factor. Neither had designers sought to explore the situations and views of the diversity of people with asthma or their carers.

Indeed, Grundin (1993:11) argues that, “designers … tend to be young, rationalistic, idealistic and the products of relatively homogeneous academic environments. They often have little experience or understanding of the different work situations and attitudes of the users.” Participatory design changes the basis of design to designing with people rather than for them. It establishes a new creative role for designers in the invention of effective tools to support collaborative design and knowledge transfer. In both the SASI Clean and Asthma Foundation projects, the students initially lacked aptitude in the application of design tools, wanting to overly control what happened in the workshops and skip over
exploratory processes to get to the concrete design work. One student in the Asthma Foundation project commented, “I was a little apprehensive regarding my activity and missed out on the persona-scenario activity assigned to all. I thought maybe this is not a very good start and I probably need to work harder in gaining the confidence of my group in me.” Hanington (2007:14) confirms students’ initial nervousness in working with end-users to establish the parameters of design, but he also reports students’ feelings of “exhilaration at the results that emerge from dynamic and inspiring research sessions”. In the SASI Clean and Asthma Foundation projects, students’ comments attested to the importance of their involvement in discussions about the projects’ research objectives and the development and testing of design tools in extending their thinking about design (see Fig. 2).

Fig. 2. A student developing a design prototype for the SASI Clean project using rich data collected during the participatory workshops.

CONCLUSIONS

Currently, graphic designers are trained to find the unique selling points in a design project by quickly differentiating between competitors in terms of product, market position, promotional message and its placement. What stands as research in graphic design is undoubtedly a by-product of the rapid turnover of designs in the market place. Such approaches are inadequate for socially engaged and community based design projects such as the SASI Clean and Asthma Foundation projects. Swann (2002) argues that graphic design needs to be more self-critical and systematic in researching and evaluating design processes, requiring the development of methodologies for self-critical evaluation. Designers should become involved in reflective practice during their education; Ulusoy’s (1999) study of design students shows that for designers to design and to understand design are two related, but distinct processes. Involvement in the SASI Clean and Asthma Foundation research projects sought to close this gap by giving Honours students experience of innovative design methods and an approach to design that vigorously considered the strengths and weaknesses of methods in order to move design forward.

The idea that undergraduate teaching and learning should be research-led, research-oriented and research-based as often as possible is now normalized in tertiary education, but the practicality of organizing undergraduate education so that teaching and research co-exist for mutual benefit remains a challenge (see Rowe and Okell 2009:183-184). Undergraduate teaching and learning can inform students about the nature of research. It can let students see how knowledge is discovered and corroborated. However, providing undergraduate students with first hand access to advanced research and researchers is a significant challenge in Australian design education, where the number of research staff is low. The syllabus of an Honours program conducted in an in-house design studio affords the flexibility to involve students in applied research projects, enabling genuine synergies between research, teaching and practice. We recognise it is a fortunate situation, not readily replicable in other teaching contexts.

In the SASI Clean and Asthma Foundation projects, the integration of design and research activity reduced the conflict between developing students’ vocational skills and understanding of design strategy, and teaching the skills of research and providing research experience (see Rowe and Okell 2009:184). Working with the Honours students was not an additional task that took the researchers away from their research. The students’ design work was intrinsic to the projects and external project funding provided the students with the opportunity to work with audience members. Learning about research protocols and alternative design methods and values is highly relevant to design graphic students, whether they embark on a vocational or a research career. Direct involvement in research at Honours level shows students that design research is a viable, alternative career path to industry practice. In the SASI Clean and Asthma Foundation projects, project meetings merged discussion of design with matters of research methodology and technique, ethics, data storage, intellectual property, research funding and project management. Students gained skills and experience relevant to general employment in design, including teamwork, communicating with a variety of people and the capacity to be innovative, open-minded and critical. They gained concrete, practical knowledge of participatory design, suggesting the potential for research projects to serve as a form of industrial placement at Honours level, equipping graduates to enhance the socio-economic performance of the graphic design industry.

REFERENCES


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