

Graphic designers' activities during the conceptual design phase of client-initiated projects

Report of research in progress, reflection on the research process

Stella Tan Swinburne University of Technology (Australia)

Gavin Melles Swinburne University of Technology (Australia)

Nicolette Lee Swinburne University of Technology (Australia)

Abstract

This paper outlines a study investigating the strategies and activities undertaken by mid-weight graphic designers during the conceptual design phase of client-initiated projects. Descriptions of design activities in the literature are most often derived from disciplines such as architecture, and product engineering. More abstract approaches, which describe graphic design as 'undefinable' or a 'linear step process' do not address professional design as a situated practice. While these studies are informative, they are also limited, as they are not based on the specific nature of practice in graphic design. The aim of the study presented in this paper was to understand graphic design practice through the investigation of the activities and strategies undertaken by working mid-weight graphic designers. Specifically, it considers the tool-mediated activities of designers as a situated practice during the conceptual stage of designing for client-initiated projects. Employing ethnographic methods, three cases were investigated, in order to generate a 'thick description' of these design processes.

Keywords

graphic design practice
design process
design activities
activity theory

Introduction

This paper reports on a study being undertaken for a Masters by Research degree in design. Design activity studies undertaken by Lawson (2006), Cross (2002), and Dorst and Cross (2001) have been situated in practices such as architecture, engineering and product design. However, literature on graphic design practice is relatively limited and highly varied in its methods and conclusions. This study was a preliminary investigation into the tool-mediated activities that graphic designers undertake when solving 'ill-structured' problems in client-initiated projects (Simon 1973). The investigation was undertaken using ethnographic methods, specifically an observational study of three mid-weight graphic designers. For the purposes of this study, mid-weight designers were classified as those with five to eight years of professional experience. The study included observations of

designer behaviours, visual work in progress, and the symbolic and physical tools used to support problem solving. The data gathered from these cases were analysed from the perspective of Activity Theory – a framework for understanding tool mediation in work practice. Activity patterns derived from each study were compiled and examined using case study methods. It was found that the activities undertaken during the design process were highly tool-mediated and iterative, confirming work by several authors in related fields (Kruger & Cross 2006; Welch 1999).

Design Practice

There are complex processes at work when a designer develops visual concepts for a design brief. Numerous authors have emphasized the ill-structured nature of design problem solving (Buchanan 1992; Dorst & Cross 2001; Lawson 2006). Findings from studies into the attributes of expert and novice designers have indicated that expert designers are more purposeful in their use of tools compared to novices (Buchanan 1992; Rittel & Webber 1973; Schon 1983). In undertaking problem-solving, designers working in different fields, including graphic design, appear to share some common traits, particularly the use of sketching to externalize inner thoughts (Stones & Cassidy 2007).

Addressing graphic design practice in particular, Schenk (1991; 1997; 2005) compared novice graphic designers' use of traditional and digital design tools, concluding that working with pen and paper enabled designers to generate more ideas than when working with digital tools. Schenk's studies of graphic designers' tool use during problem solving also found that sketching and drawing played a major part in graphic designers' processes. It was further reported that designers relied on pen and paper sketching during the early stages of the design process for idea generation, and that computers were used as tools more often during the detailing or latter stages. In their essays on graphic design practice, Nini (1996) and Bonsiepe (1994) also noted that design students and novice practitioners appear to ignore discussion of problem solving, and instead often prefer to focus their attention on the aesthetic qualities of design outcomes.

Research method

As previously noted, there have been a number of empirical studies of designer activities and their design processes although not conducted in the naturalistic setting of practice (e.g. Akin & Lin 1995; Bilda, Gero, & Purcell 2006; Cardella, Atman, & Adams 2006; Yang & Epstein 2005). From an ethnographic perspective, such studies abstract practice from its naturalistic environment and fail to address the ill-structured nature of the problem-solution design space as they appear in context. In contrast, case studies are undertaken within the context of the object of study, allowing the researcher to observe activity in situ, and to incorporate important environmental influences on behaviours into the analysis (Yin 2003). They are also preferred for their capacity to provide data sufficient for a rich or 'thick description' (Geertz 1973).

A study involving design activities involves three interdependent factors – the design process, the nature of the design problem, and the type of

designer (Dorst 2006). This study focused on the conceptual stage of the design process as a defined phase focused on the production of visual solutions to design problems as presented in a design brief. This investigation was comprised of three case studies of individual mid-weight graphic designers working on their own client-initiated design projects. Mid-weight designers were chosen instead of novices or expert designers because mid-weight designers would have achieved a level of competency surpassing that of novice but not of the level of expert yet (Dreyfus & Dreyfus 1986). The data collected was expected to reflect a mixture of experimentation (representative of novices) and routine (representative of expert) activity. The criteria for this category reflected that of industry, requiring participants to have had between five to eight years of print-based work experience as a professional graphic designer. For the purposes of this study, mid-weight designers were chosen as representative of a group of practitioners with sufficient expertise to have developed routines around designing for graphic design projects.

Client-initiated projects were chosen, as they would require designers to consider real-world problems within a naturalistic environment. Projects chosen for the observation were each of similar scope: print-based; a small to medium sized budget; an initial time frame of not more than two weeks for concept development, and which required some form of creative development. Designer One (D1) was commissioned to design a book cover and inside pages for a children's storybook. Designer Two's (D2) design brief consisted of a meeting in person with the client, to propose a logo and product label for a series of homemade jams. Designer Three (D3) was requested to design a set of business stationary for a client who was setting up a freelance consultancy business.

Each observation took place in the designer's normal working environment. In each case this was the designer's own premises at home. Prior to the start of each project, the participants were interviewed about their understanding of the design brief and client requirements. Before the start of the projects, time was spent observing the designers to help them acclimatize to having an observer. Once the project work had commenced, notes on activities, actions and operations were made, with timings and computer activity collected by using half-hourly screen-shots from the designer's computer. Any design material provided by the client, along with any visual outcomes generated by the designer through research, was retained as visual data. After each completed observation, the designers were presented with a copy of the data to validate and clarify the findings.

A focus on tool mediation in workplace activity consistent with Activity Theory (AT) was used as the dominant basis for analysis, particularly focusing on the tool mediation of design activities. AT is a framework that has been widely used in the understanding of human behavior from a social, contextual perspective (Engstrom 2000). AT is expansive and allows for collaboration with other theories, including the methodological and epistemological concerns underlying case study and ethnography (Tarbox 2006). Figure 1, below, employs the AT triangle tool to visualize the design practitioner context, with subject, tools and goals in dynamic relationships. This tool was used as the basis for exploring tool-mediated activities carried out by each designer.

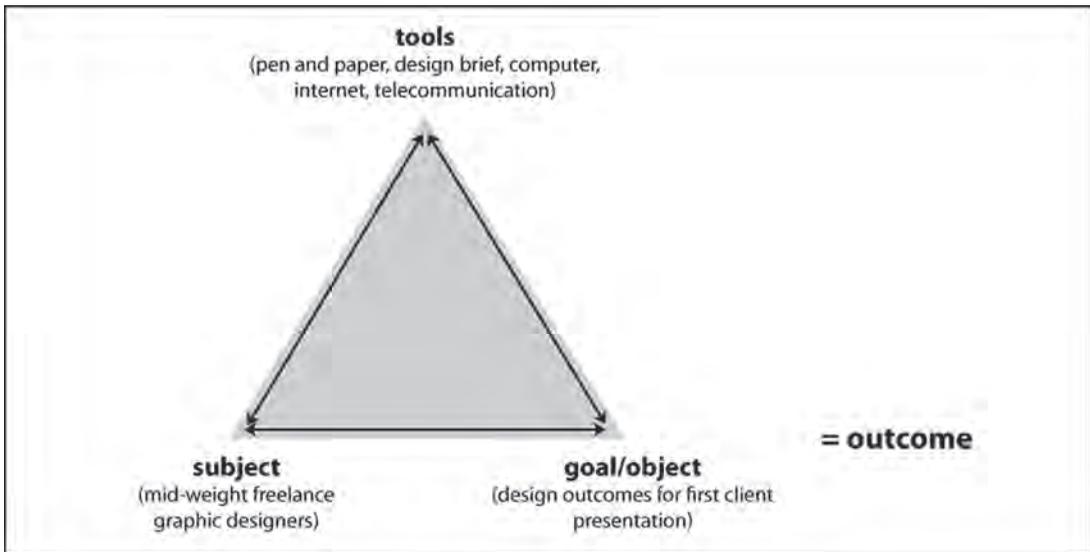


Figure 1: Activity Theory triangle reflecting tool mediated activity during the design process.

Preliminary analysis

Overall, although all three designers worked on different projects, they were found to adopt similar activities for problem solving. During the briefing phase, all three designers asked the client verbal questions to clarify design-related problem areas, and took down additional notes using pens and highlighters to write and underline words on their notebooks during their meeting with the client. Conversations, the brief, and initial interpretation of the brief represent symbolic tools, used to clarify initial objectives, and to provide an interpreted outcome to be further interrogated and conceptualized visually. For all three designers, e-mailing was seen as the preferred tool for communication purposes after the initial client briefing.

Throughout the generation of ideas and visual outcomes phase, all three designers relied heavily on digital software tools for researching and gathering information, idea generation, and visual exploration. The designers often iterated between idea creations and using the Internet to research for information and visual material. This can be seen in D3's work (see figure 2). In the background under the Photoshop layers of visual explorations, an open web browser window can be seen, in which D3 was looking for reference material related to the client's work. This 'simultaneous', rather than sequential, generation of visual ideas and researching seems characteristic of practicing designers.

The designers would also create multiple 'near to finished' visual solutions during the idea generation phase. An example of this is shown in Figure 3, below. After completing two visual solutions, D1 compared and contrasted the latest visual solution with a previous solution. Interestingly, these 'solutions' were not set in stone, and their visual appearance changed rapidly. This suggests that provisional albeit 'complete' visual

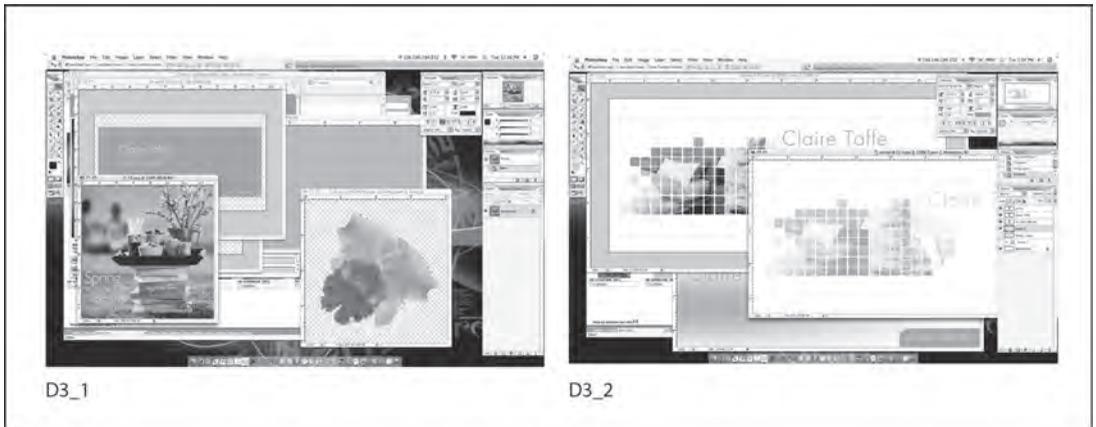


Figure 2: D3's work in progress, showing visual exploration and researching for visual reference material to generate design outcomes for a business card.

outcomes are used themselves as mediating tools in testing and judging other visual outcomes, aiding the designers in making visual element choices and design directed decisions. The designers' choice of using digital software tools over other traditional methods also suggests further that digital software tools are useful as they allow for faster and more accurate visual solutions.

All three designers used at least two or more software tools for visual exploration and experimentation. Although pen and paper were predominately used for notation and writing down of ideas, the designers also reverted back to pen and paper to sketch when they experienced frustration and difficulty in creating visual outcomes using digital tools. This activity suggests two possibilities; that computer software tools have limited capabilities in aiding the designer in the visual outcome, or that the designers had limited ability in managing the software tools, which obstructed the creation of visual outcomes.

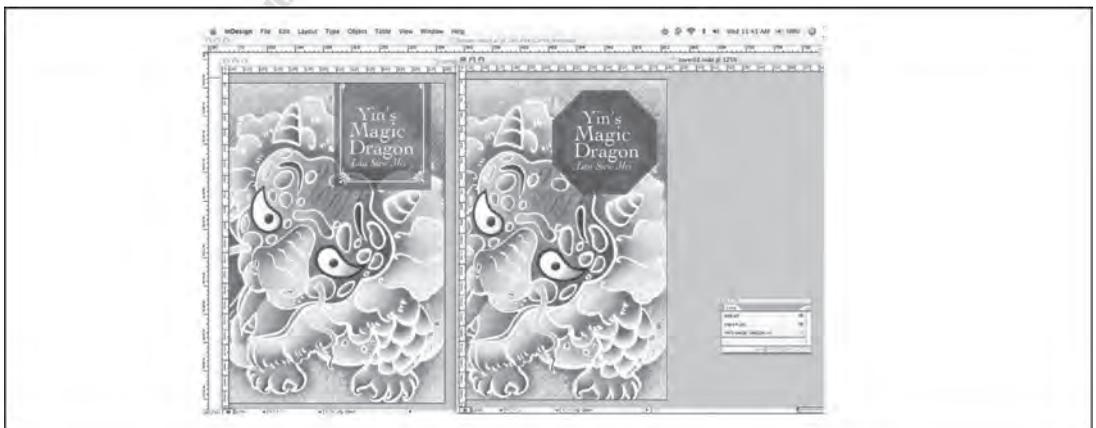


Figure 3: D1's work in progress, showing a comparison of two visual solutions.

Discussion

Although there have been previous studies of design practice the majority of these appear to have employed artificial or simulated settings and environments. This study has employed a theory-informed (Activity Theory) case study approach to the situated practice of graphic designers, focussing particularly on the mediation of practice by symbolic and material tools. The findings confirm the need for studio-like environments of design education where design solutions are iteratively discovered and refined in the context of broadly or sometimes ill-defined constraints and briefs.

It is clear that tool-mediated practices play an important role in the problem solving process for graphic designers, and that interim outcomes feed-back into further phases of the design process. Designers in the study resorted to sketching and drawing when ideas could not be fully developed through digital software tools. When a visual idea could be successfully resolved on paper this then led to the designer trying to create a digital version. The dependence on digital software tools by designers contrasts with some studies (Suwa & Tversky 1997), which indicate a prevalence of pen and paper sketching. On the other hand, when a sketch did not resolve a difficulty, participants would change direction and resort to generating new ideas and concepts. This behavior suggests that designers cycle through multiple tools in a heuristic process until one aspect of the problem is resolved, then moving to the next aspect and beginning the process again.

The simultaneous generation of design solutions and research, and the interdependent feedback loops of provisional outcomes into further design phases also seem characteristic of professional practice, an approach which contrasts with some textbook and educational representations of design practice as a sequential, linear process. As the study analysis progresses, it may reveal a clearer picture of tool-mediated practice in graphic design practice in this category of designer, allowing us to gain a better understanding of how these transitional designers use tools in understanding and creating problem solutions.

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Contributor details

Stella Tan is a practicing graphic designer.

Contact: Faculty of Design, Swinburne University of Technology, Building PA, Prahran Campus, VIC 3181, Australia.

Tel: +61392146851

E-mail: stan@swin.edu.au

Gavin Melles is research fellow at Swinburne University, faculty of Design. His research interests include design research education, research supervision, qualitative methods and genre-based thesis writing. His background is in linguistic anthropology and education. He is supervising Stella Tan.

Contact: Faculty of Design, Swinburne University of Technology, Building PA, Prahran Campus, VIC 3181, Australia.

Tel: +61392146851

E-mail: GMelles@groupwise.swin.edu.au

Nicolette Lee is the Academic Coordinator (Experiential Learning) at Swinburne University of Technology, and a Lecturer at the Faculty of Design. Her background is in design management, and research interests include practice-based design education, project-based practice and learning spaces. She is supervising Stella Tan.

Contact: Faculty of Design, Swinburne University of Technology, Building PA, Prahran Campus, VIC 3181, Australia.

Tel: +61392146851

E-mail: nlee@groupwise.swin.edu.au

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