DESIGN INQUIRY THROUGH MAKING

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Abstract: The graphic design process, from the initial brief to conceptualization to final artifacts, is a fluid series of activities where the designer alternates between action and reflection. Making "things" is central to the process of designing, and thus production of artifacts early on allows the designer to realize preliminary thoughts or ideas well before they are fully developed. Given its ties to professional practice, graphic design education (especially at the undergraduate level) often emphasizes competencies and skills for success in the profession rather than developing conceptual or open-ended approaches. I argue that the skills acquired through making and a more open investigation prepares students for the complexities of applied or problem-based work because it encourages creative and critical thinking skills and novel results. In this paper, I present an assignment that helps students develop topics for graphic design inquiry through making.

Keywords: graphic design inquiry, research through making, design process

1. Introduction

The creative disciplines are concerned with realizing abstract ideas in tangible form. A film, a painting, a music score, a drawing, a design, all creative works are the result of creative production involving processes unique to each discipline. The graphic design process, from the initial brief to conceptualization to final artifacts, is a fluid series of activities where the designer alternates between action and reflection. Making "things" is central to the process of designing, and thus production of artifacts early on allows the designer to realize preliminary thoughts or ideas well before they are fully developed. Physical representations of ideas, whether preliminary scribbles and sketches or full mock-ups give the designer an opportunity to reflect, compare, augment and improve upon initial ideas. In a research context, the physical act of making provides a starting point that can inspire a series of projects for visual exploration. In this paper, I will share the results of an assignment that helps students develop topics for graphic design research through making.

2. The Design Process

To better understand the importance of making before a topic is fully defined, it is essential to recognize how knowledge creation and the design process, shared by the various design fields (graphic, architectural, industrial, product, etc.) are distinct from the way other disciplines generate and express knowledge. Examining how designers problem-solve reveals a way of thinking that make the design process unique. Bryan Lawson (1972) compared the working processes of scientists (psychology students) and designers (architecture students) who participated in a "design-like" activity. On analysing

the results of this experiment, he concluded that scientists were problem-focused, while designers were solution-focused. Lawson suggests that the differing working processes might be attributed to the style of education each receives: scientists are taught theories and how to analyze problems with a methodological approach, while designers learn by making and working through a series of solutions (2005)[1]. For Lawson, the designer's process is not a series of logical steps, originating from a clearly defined problem. Instead, work often begins with a vague project brief; through making and testing against the brief, "both the problem and the solution emerge together" (2005). Lawson explains the process as a "negotiation between problem and solution," where analysis, synthesis and evaluation do not occur in a predictable sequence (2005).

Another difference between scientific and design processes can be found in the way knowledge is expressed. Scientists help us understand the present by describing phenomena – how and why something manifests in a particular way – while designers offer possibilities in the form of tangible artifacts (Lawson, 2005). In short, scientists explain while designers create. The most important, obvious and fundamental difference is that design is essentially prescriptive whereas science is predominantly descriptive. Designers do not aim to deal with questions of what is, how and why. Instead, they are concerned with what might be, could be and should be (2005).

Design theorist Nigel Cross suggests that solutions are not "out there", simply waiting to be discovered; instead, they come about by active construction (1982). A designer's process is, at times, "messy," it does not necessarily follow a logical set of procedures, and requires creativity and unconventional thinking (Cameron, 1998; Lupton, 2011). When successful, the process results in possibilities rather than one definitive solution. Thus, it is precisely the generative act of making – and the freedom to synthesize ideas – that results in new designs.

Within the context of the university, experiential learning and generating knowledge through practice-based activities is seen as a relatively new approach. Simon (1996) observed that over the second half of the last century, design, one of the "Sciences of the Artificial" were all but driven from professional school curricula because they lacked the academic rigour found in the natural sciences. While the natural sciences were "intellectually tough, analytic, formalizable, and teachable," design was viewed as "intellectually soft, intuitive, informal, and cookbooky." Rooted in professional practice, graphic design educators have long known the value of learning through "doing." Educator Donald Schön has written about the "power and usefulness" of knowledge garnered through practice, and effectively legitimized "informal knowledge" (Sanyal, 1997). Schön (1995) recognized how practice knowledge differs from traditional forms of text-based scholarly inquiry. He explained the dichotomy between academic and practice knowledge by identifying the dilemma between the rigor of scholarly approaches versus the relevance of practice-based approaches. Schön described academic knowledge as the solving of manageable problems through the use of theory and technique. Knowledge generated through practice (knowing-in-action) comes about as a result of tackling ill-defined problems through a process that practitioners find difficult to explain easily or rationally (1995).

The unique way in which designers think and work has received attention from those outside the discipline. Business strategists have adopted design thinking because they see the role that design can play in the development of new, marketable ideas and products. The concept of "design thinking" has become fashionable in business schools because they recognize that good design can positively affect business practices and profitability. However, there is a tendency to emphasize the thinking aspect and procedures rather than the making and the formal aspects of design (Lupton, 2011). Lupton describes design thinking as something that does not take place solely "inside the brain." Instead, "it occurs as fleeting ideas become tangible things: words, sketches, prototypes and proposals" (2011). She considers "form-making as a crucial element of the creative process" (2011).

Visual exploration or visual research without a client, a client brief or a predetermined outcome is not limited to activities that go on in the classroom. In fact, many professional graphic designers and collectives, such as Stefan Sagmeister, Marian Bantjes, Non-Format, and Experimental Jetset, frequently engage in self-initiated work because it offers an outlet for unfettered creativity and idea-generation that client-based work may not necessarily provide. For Sagmeister (2015) and Non-Format (Ekhorn & Forss, 2007), the results of their experimental work often find a place in professional projects.

3. Graphic Design Education

The main focus of graphic design education is to teach students how to visually communicate messages and abstract ideas. Among the skills acquired is the ability to sort and organize, categorize and group, combine and make connections. Essentially, students are taught to make visual sense of complex concepts. The act of making, especially early in the process, forces designers to externalize and bring their ideas to fruition on paper or in other media. During the act of visualizing and producing multiple iterations, ideas are made real; engaging directly and visually with content allows ideas to make sense. Through this process of sense-making and critical reflection there is an opportunity to be both analytical and open to the new possibilities that emerge by adjusting, changing, adding and removing elements, or abandoning ideas altogether and beginning again.

Given its ties to professional practice, graphic design education (especially at the undergraduate level) often emphasizes competencies and skills for success in the profession rather than developing conceptual or open-ended approaches. Often the projects are framed with a focus on client or user needs. Given the greater awareness and interest in global issues (economic, environmental, social and political) that threaten our well being, it is understandable that designers and educators are interested in pursuing the role design has in dealing with these concerns. However, advocates of this approach tend to marginalize the more subjective or speculative approaches that emphasize visual exploration, in favor of objective, applied approaches. The former encourages the invention of ideas through form-making while the latter requires an a priori definition of the problem. I would argue that the skills acquired through making and a more open investigation prepares students for the complexities of applied or problem-based work because it encourages creative and critical thinking skills and novel results.

A problem-based method is deductive and implies a process of elimination. As such, ideas that have potential but are not fully resolved might be abandoned early on in the quest for the one "perfect" solution. An exploration-based approach is generative and encourages many possible solutions. At its worst, a problem-based approach channels the designer to narrow the focus well before there has been an opportunity to fully explore potential directions that may not align with initial assumptions but may, in fact, be more inventive.

How do we ensure that students graduate armed with the skills that are an integral part of design education? If we value formal exploration as fundamental, we need to provide the time and space for students to "make" early in the process, even while they are struggling with narrowing a topic or trying to make sense of what it is they want to pursue. Engaging in the act of making and working through a topic, students come to realize that they can begin with a broad area of interest and work towards something more specific that will allow for deeper inquiry.

4. Research Through Making

In the course of introducing design research to upper level undergraduate and first year graduate students, I have observed that research is considered separate from their activities as designers and makers of things. Previously, students were given a broad topic and asked to write a proposal for a year-long a design project. Using secondary sources, they struggled with writing a literature review for the purpose of framing a problem for design inquiry. Year after year, two problems emerged:

1) Beginning with a text-based, non-visual approach to research tended to reinforce the idea that research in design occurs only through consulting secondary sources and is an activity that happens apart from the creative process of making; and

2) Students often struggled with interpreting and framing projects from a broad topic.

Thus, it was difficult for students to imagine that research can be a formal, exploratory practice or that the designs produced along the way can be considered (along with the final work(s)) the products or results of research/knowledge creation. It is within the context of the designer's unique working processes and the way in which knowledge is created that I began to introduce students to research through making. Initial discussions are concerned with how to formulate a topic for investigation based on their personal interests. While not all topics are inherently "visual" by nature, students are reminded

that they should think about them from a graphic designer's perspective and, specifically, in terms of what graphic design might bring to the topic.

5. The Visual Essay

The visual essay is used as a vehicle for students to begin to realize topics and ideas in a tangible form. To begin with, students shoot 50 photographs related to their topic of interest[2]. Next, by sorting and organizing "like" photographs into groupings they are compelled to find conceptual and formal connections amongst the images. Ideas and themes emerge naturally from the content, without the pressure of committing to a layout or a design. Very quickly, students begin to recognize which images might work well together, both conceptually and visually, to form a visual narrative. Using the selected photos as content for a visual essay, students are instructed to "write" with their images, much in the same way that a writer would write an essay with words, using strategies to express thoughts or ideas. The strategies—description, narration, illustration, process analysis, cause and effect, comparison and contrast, definition, and division and classification —are described as follows:

- Description (showing it) helps us realize ideas or mental images by expounding upon salient details and describing them, vividly.

- Narration (telling it) consists of presenting a "sequence of events, an account of what happened, whether real or invented".

- Illustration (making it specific) is essentially, informing or elaborating on a point, by example and is useful for making a general idea more easily understood.

- Process Analysis (explain how it works) "is a special kind of narrative, one that concentrates not on a particular episode but on how something happens" and is often used to instruct.

- Cause and Effect (explaining why it happened) is a form of analysis that looks to uncover why something occurred and what resulted. It is constructed by beginning with a situation and working towards the effect(s) or the reverse, beginning with the effects and building to the cause(s).

- Comparison and Contrast (showing likeness, showing difference) helps us understand by weighing similarities and differences between one thing and another.

- Definition (establishing meaning) helps define terms to establish a common understanding.

- Division and Classification (putting it in its place) refers to "sorting individual items into categories based on shared attributes or qualities," which allows us to observe and better understand individual items in a category (Packer, Timpane, 1997).

While writing differs from designing in terms of the mode in which information is conveyed – linguistic, rather than visual – the objective of communicating ideas or information is common to both activities. For this project, writing strategies provide a framework that helps students make sense of a set of related images and allow ideas to emerge through the creation of a multipage document. Students use one or more strategies to "tell a story".

Aside from using the photographs, students are encouraged to integrate other visual elements. In some cases, students move away from using the photographs taken in the first stages of the project because through the process of sorting, grouping and developing initial page layouts, they discover that the story they want to tell can be expressed more effectively using typography, drawings/illustrations and graphics alone or in combination.

Over a period of four weeks, and in tandem with the visual essay, students work through the process of articulating a thesis statement or research question. Topics are broad to begin with and in discussing them weekly with the class, they begin to narrow, until a manageable research project is defined. As a

matter of course, students begin a literature search related to their topics and seek out papers and books related to their topic and relevant visual work generated by designers and artists. These materials help students clarify their understanding of a topic and position their work within a larger context. The act of making, informed by reading, works to help students declare their intentions. However, it is understood that the thesis statement or research question may not, in the end, correspond directly to the visual essay. An essential aspect of this project is the ability to embrace the fluidity of ideas through making. Idea generation happens naturally as students become more familiar with the topic through the process of making, reading and writing, and they begin to recognize whether or not there is potential for investigation through a larger project or series of small projects. While the essay itself is evaluated on its own merit, real learning is demonstrated by whether or not the process has helped the student broaden their perspectives and provide direction for further inquiry.

An undergraduate student (Danielle Roche) used the visual essay to explore "identity" by photographing herself in various roles. Interested in perceptions surrounding identity, she used categorization as her strategy in her visual essay, "Anonymous Identities" (Figure 1), to examine how her sense of being is shaped both by the social contexts she inhabits and through the expectations of others. She removed her face to emphasize the generic nature of identity while showing how various roles can be expressed with references to location, props and clothing. Traditional "uniforms" express conventional identities and more elaborate and outrageous "costumes" express various subcultures.
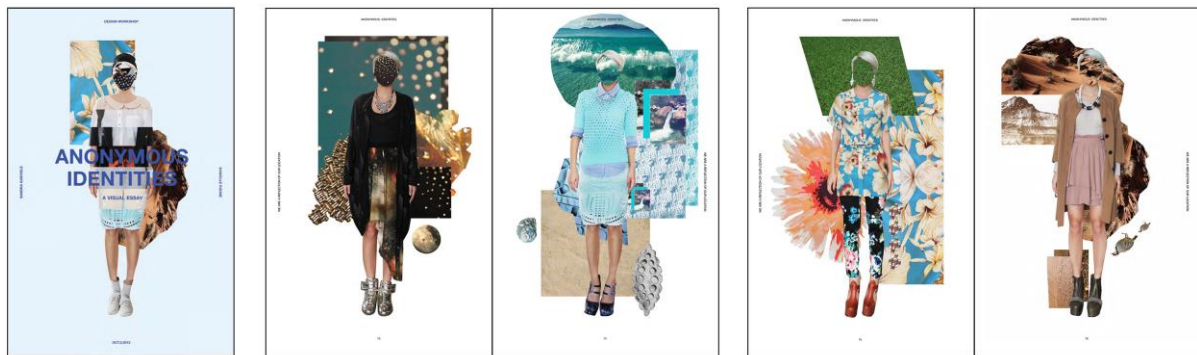

Figure 1. "Anonymous Identities", Visual Essay

The essay concluded by questioning what makes subcultures distinctive and provided direction for a second project, "The Subculture Blueprint" (Figure 2). In this poster, she created drawings of objects associated with various subcultures and positioned them on a map divided into quadrants representing binary concepts. With this project, she demonstrated that even the most diverse subcultures are interconnected. In the third and final project, the student took a humorous approach by designing an adult activity book, "Identity Instruction Manual" (Figure 3) using paper dolls, clothes and objects, interspersed with information-rich games related to characteristics of various subcultures ("the raver," "the preppie," "the jock," "the skater," etc.) The book prompts the user to find relationships between the subcultures to customize identities based on the information and objects provided in the activity book.
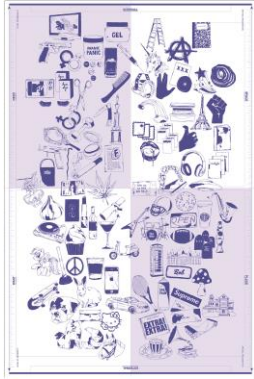
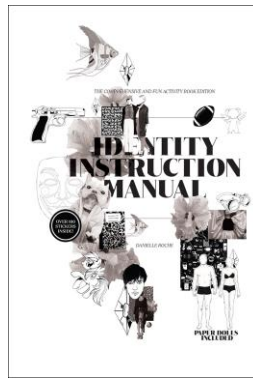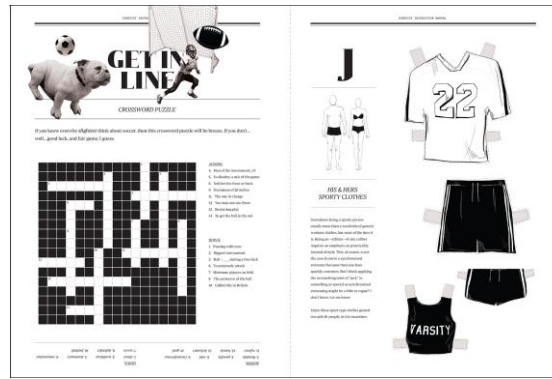**Figure 2.** "Subculture Blueprint," Poster

Figure 3. "Identity Instruction Manual," Activity Book

This study began as an introspective examination of identity but as the student progressed through her projects, she was able examine broader definitions, leading her to produce a final project that encourages audiences to explore the notion that identities are not binary or fixed. This project is an example of how the process of making, free of predetermined solutions, produced designed artefacts that have the potential to inform others of the complexities associated with identity in a novel and compelling way.

7. Conclusion

The approach to design inquiry described in this paper is based on the understanding that graphic designers are makers first and foremost and that creative thinking and ideation occurs through the process of making. The visual essay is one way to encourage students to develop a direction for deeper inquiry. With the activities involved in designing the visual essay, from shooting to sorting and categorizing, arranging and sequencing, students work towards the larger goal of narrowing a topic. It is precisely the act of making, free from a defined "problem" that encourages creative, novel thinking and at the same time, exercises critical thinking skills. Assignments that encourage exploration through making early in the design process act as a powerful tool for developing rich, meaningful topics for graphic design research while contributing to the larger goals of educating graphic designers to be both creative and critical, regardless of how they choose to practice.

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Endnotes

[1] In reality both science- and design-based education and processes are not as rigid as defined here. Both science and design utilize a mixture of analysis, synthesis and evaluation at different times.

[2] Allowing students to choose the topic (rather than imposing one on them) helps develop skills for determining whether or not a topic has the potential for a deeper and fulsome investigation. It also helps students foster a sense of ownership and responsibility for their own work.