

Design Research: Building a Culture from Scratch

Conference description of the topic: A 2005 education survey by Metropolis Magazine showed no consensus among practitioners or educators about what constitutes design research; limited access to research findings from professional practice; nascent use of students as interns in the research process; and great confusion about what design issues deserve the greatest attention by researchers. Organizers of the 2007 conference of the International Association of Societies of Design Research reported that only 10% of the paper submissions came from Americans, demonstrating that the US is behind other countries in the generation of new knowledge.

Despite this confusion, there is ample evidence that research will play an increasing role in the future of professional practice and that the typical usability testing in labs and focus groups will be insufficient in informing large-scale communication strategies and technological development. Further, it is apparent that design practitioners consider research to be proprietary and that any large-scale dissemination of new knowledge must come from academic institutions.

It is clear, therefore, that much work is yet to be done in building a research culture. Traditionally, undergraduate “research” activities have been defined in terms of existing information retrieval on the subject matter of the communication, the wants and needs of the client, and the technical demands of message production and distribution, little of which is transferrable to other projects. Further, in many programs there is limited curricular distinction between the research behaviors expected of undergraduate and graduate students, leaving the majority of master’s graduates unprepared for the scholarship and knowledge generation demands of current faculty positions in research-driven institutions.

This underdevelopment of the research culture in design raises interesting questions for design education:

a How do we prepare undergraduates for using and evaluating research that will support decision-making in a professional climate of accountability and that will build predispositions to research activity?

b How do we differentiate between undergraduate and graduate curricula in ways that privilege speculative and research-driven work as what is “advanced” about terminal degrees?

c As a field, how do we build curricular depth in rigorous research methods under a professoriate that is trained largely in professional practice? What other disciplines can serve as exemplars for research behaviors and where does design need to chart new territory?

d What are the models of research collaboration through which schools can engage with industry?

The following prospectuses were submitted for consideration and their authors were selected as co-authors for the October 2010 AIGA Educators Conference – New Contexts / New Practices – at North Carolina State University, Raleigh, NC.

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Design Research: Building a Culture from Scratch

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“Design Research – the big ‘R’ and the little ‘r’ - and its integration in design education

Design research can often be perceived as ‘antithetical’ to the purpose and process of design practice. ‘To design’ is interpreted ‘to plan’ or ‘to provide a description’ (Cross 2006). Designing is a way to fulfill a plan and to provide a description to the client and the public of what is to be expected in the outcome. Professional practice places emphasis on delivering answers to problems brought by clients. The designers’ professional competency is judged on their ability to advise, guide, provide knowledge and be an expert in presenting communication solutions to such problems. Contrary to this positioning, there is an argument that states that design research approach requires the designer to explore a context with an open, inquiry-led mind, and to assume nothing. Such designer surrenders to the ‘unknown’, embrace uncertainty, and they are there to learn, understand and explore possibilities. It is a position that many design practitioners will feel ‘contradictory’ to their purpose and professionalism.

Instead of perpetuating the perceived distance between design research and design practice, the provocation of this paper raises issues and offer potentials of integrating design research as a core driver in assisting design students to understand and explore what design is, what it could be and what it can contribute to our engagement with and understanding of the world. In other words, design research can be a tool, a vehicle and an approach that can open up future possibilities for design practice.

One of the first hurdles in bridging the distance is to understand two different takes on research – the big ‘R’ and the little ‘r’. Much of design research taught in undergraduate design classes is the big ‘R’. Emphasis is placed on researching information in order to undertake and support designing and the creation of the designed outcome. Such parameters can also include collection of material and data, ethnography-based methods of interviews, surveys and focus groups, general reading of books and journals or first-hand observations and documentations. This approach to research has been termed ‘research-oriented design’ (Fallman 2005) or ‘research for design’ (Downton 2003) and translates well into how design practitioners research facts and contexts of the clients’ problem to offer solutions. Yet, there is another, lesser known, but growing in adoption of design research by industry that emphasises knowledge creation through the process of design. This is the little ‘r’. Research through design (Downton 2003) uses the method, language, material and practice of design to create knowledge that transforms understanding of the possibilities of the discipline (Haseman 2006). This approach has been discussed as ‘design-oriented research’ (Fallman 2005). Research through design integrates the process of designing and research as one.

Knowledge created through design has strengths to contribute back to practice again, due to familiar modes and language of enquiry – design is a doing, thinking and making activity. Design, by its nature, is future-oriented. The role of design research can ‘evoke discussion of how the world could be’ (Grocott 2005, p. 2) rather than reflecting on how the world is. Instead of privileging knowledge that is retrospective, design practice can create knowledge that is ‘lying in the future, possessed by the uncertainties of the future... disposed to bring into being – not only as provocation or reflection on our world – but in order to make the world or a small measure of it differently’ (Rosenburg 2006, p. 4).

There is a robust academic discourse on different definitions of design knowledge (eg, PhD design discussion list hosted by the Design Research Society or Research Into Practice conference in the UK), however, this discourse fails to engage many designers or extend out towards industry. Challenges in nurturing a research-led culture in design education can be caused by a variety of issues. Several causes and propositions of how they can be addressed are proposed here to begin the discussion:

- Questioning a ‘defensive’ mindset by both design educators and design professionals. Nabeel Hamdi (2010) describes this defensiveness expressed as experts with a ‘territory’ that they ‘own’ excellence in, which is defended by rejecting knowledge that cannot be understood or explained. It can also be seen in ways that professionals oversimplify complex problems to a single objective that can be ‘solved’, turning a process into a product to be

designed in their field. A defensive approach makes it difficult to open up new ways of doing and thinking design. This critique and examination necessarily start with ourselves, to question and break down a mindset that we each may carry from our professional fields into education.

- Selection criteria for educators can no longer be based solely on professional practice or teaching experience. Additional skill-sets and knowledge is required, particularly for critical thinking and inquiry-led process, to equip graduates with strengths in research. This is beginning to happen in many Australian academic institutions where educators are required to have a postgraduate research qualification as mandatory. They are also supported and encouraged to have an active research practice, enabling them greater opportunities to foster design research projects as vehicles for understanding and learning about design.
- Education needs to work with the current practices and application of research in design industry, to contribute towards new and emerging conversations on design research. To foster better understanding by design professionals, greater attempt is needed and for design research to be presented, framed and promoted through the language of design. Design research must be packaged as tangible, practical and applicable 'case studies', with strengths in critical examination and exploration of opportunities to contribute to practice, business, communities and society as a whole.

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Audrey Grace Bennett / Rensselaer Polytechnic Institute

Global Interaction in the Design Research Classroom

Spawned by the demands of globalization, the recent proliferation of communication technologies for remote collaboration and communication has created unprecedented opportunities for global interaction in research between design educators, students and human subjects in first and third world contexts. As students step virtually (and physically) into distant geographic terrains, they are confronted by differences in culture that may include age, religion, language, time zones, ethnicity, economic class, gender, cultural heritage, and visual literacy or media literacy. How do we educate current students (our future design researchers) on the cultural, intellectual and technological affordances and challenges of global interaction and collaboration?

As New York Times foreign affairs columnist Thomas Friedman discovered during a trip to India:

“It is now possible for more people than ever to collaborate...in real time with more other people on more different kinds of work from more different corners of the planet and on a more equal footing than at any previous time in the history of the world—using computers, e-mail, fiber-optic networks, teleconferencing, and dynamic new software.” (8)

Since the publication of that quote in Friedman’s book *The World is Flat*, internet usage in Africa, the Middle East, and Latin America for instance has more than quadrupled in all three regions. The world is even flatter today; and the ramifications of this leveling on education, in general, has been staggering. This is the time of the wireless, Web 2.0 classroom. Skype, Dimdim, Twitter, iTunesU, content management systems, social media, social networking, podcasting, open source, and wired communication technologies are integrating synchronous and asynchronous global interaction and collaboration into our local, face to face classes.

What this all means is that design research curricula now has a global playing field; and, in order to navigate this new space effectively, the following new questions need to be addressed:

- What are the social roadblocks that we confront in our virtual negotiations with potential collaborators abroad, and how do we overcome them to reach a mutually acceptable outcome?
- Is collaborative research with lay people authentic when it is virtually facilitated? Should we even evaluate virtual collaborative research using concepts like authenticity? Or, should we use concepts like sustainability, efficacy, or efficiency?
- Does virtual collaborative research need to be supplemented by face-to-face interaction? What role (if any) should face-to-face interaction play?
- How can we use technologically facilitated access to global resources to provide more fieldwork and study abroad opportunities for our graduate and undergraduate design students that nurture their research skills and enable them to conduct research abroad with human subjects?
- How do we integrate IRB (Internal Review Board) approval for research with human subjects into undergraduate and graduate curricula?
- How do we negotiate intellectual property rights in global collaborative research with human subjects that uses local university resources and the ideas of others?
- How do we train undergraduates to write research proposals and problem solve in a research-oriented way?
- Can graphic design educators compete yet for the kind of funding that scholars from other disciplines are able to secure to conduct global research or are we only fundable through businesses?

As the world flattens more and more, design research educators are gaining greater access to human subjects through technology. Thus, more design educators are integrating social issues (not just business issues) into their curricula because they now have greater access to human subjects. The time is now for design educators to converge to intellectually grapple with appropriate answers to the previous questions and others and work towards forming a unified research culture in graphic design that addresses human issues as well as business.

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THE PRESENCE OF THE PAST

“All men’s gains are the fruits of venturing.” — Herodotus

“History travels. It wanders between here and there, interpretation and event, exposition and revision, value and fact. A Greek word meaning an investigation or inquiry, history is nomadic. It is both a course of actual events and a written record. Herodotus, the historian, traveler and first to use the word in the fifth century B.C., defined history as a humanistic inquiry. In contrast to his fellow Greeks, he believed that the past was determined by man rather than myth and, as such, could be questioned and dated. Moreover, the goal of such historical study was self-revelatory, it existed “... in order to tell man what man is by telling him what man has done.”¹ Such telling linked past and present by way of tangible evidence—the material traces of manmade actions. Traditionally it has been these traces along with the biographies of those who have produced such documents that have defined the study of history. Lives have been illuminated and the material evidence of their existence mapped, interpreted and tested against notions of truth and significance. As time has moved on, however, so has historiographic method. The document is no longer the “inert material” through which historians reconstruct a single and immobile past, but rather a dynamic site of intersection that reveals provocative relationships (social, cultural, economic, technological, etc.).²

Considered in this way, historical documents do not remain in the past, but navigate between the past and the present. They are at once evidence of actual events and sites of interpretation. And, although events in history exist in a particular time and place and necessarily need to be considered in this context, the historian brings the present to the past when she formulates questions —when she determines which contextual conditions to examine in relation to the evidence. Similarly, the historian brings the past to the present when she articulates the value of such study today. A form of social acquisition, the study of history helps us to transfer skills and knowledge from one generation to another.³ This transfer is not to be confused with a Cartesian sense of progress as evolution. Rather, it is the messy progress of human thought with all its deviations and revisions. We question ourselves when we question the past and the most provocative history is written when “...the historian’s vision of the past is illuminated by insights into the problems of the present.”⁴ Given the importance of these self-reflective insights to disciplinary identity and growth, it is curious that the field of graphic design has treated its own history with such indifference.” — Anne Bush — (Design Issues, Forthcoming 2011)

As a potential member of the Research authoring group, I would like to point out what I believe to be a considerable “dilemma” in design education—the absence of graphic design history. In the United Kingdom there is a research culture that includes design history, albeit one that, only recently, has become open to questions regarding visual communication. In the United States, this culture is absent altogether. The reasons for this are myriad and include the perception among designers and design educators that practice and theory are separate, that design history is the province of art history, and that the writing of criticism and history are similar endeavours.

Such beliefs reveal fundamental misunderstandings about what constitutes design history and what constitutes research. Implicitly it suggests that an understanding of history is unimportant to present and future design practice. Given the format and ‘provocations’ already put forth, questions that could be discussed include: —How does history inform a profession focused on practical and quantitative outcomes? —How does the teaching of design history move beyond the (outmoded) art historical focus on ‘style’ or ‘authorship’ as a primary concern? —In what ways can undergraduate design programs take advantage of academic experts and resources in other disciplines to imagine a new curriculum for design history? —What would the preparation of graphic design historians entail (on a graduate level) and how would this education differ from the preparation of design critics or journalists? Are there ways to integrate such preparation into existing programs and research tracks?

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DILEMMAS: In current topical discourse, what we do has become an activity known by its generic label of “design,” rather than its elongated title, “visual communication design” or even the now seemingly passé, “graphic design.” Yet graphic design served—and still does serve—a purpose. It is my contention that the pressure to mould curricula to suit the instrumentalization of particular streams of knowledge comes at the expense of graphic designer’s ability to express and communicate ideas in visual form. In fact, the emphasis on methods borrowed from other disciplines, e.g. operations research, design methodologies, behaviorism, dismisses graphic design’s ability to communicate through visual form as a legitimate expression of cultural practice. Graphic designers are students and interpreters of human experience and creative activity. A social science emphasis eliminates the unique ability of graphic design to reflect upon human experience, to act with an agency that conveys the complexities and aspirations of society.

Disciplinary trail-blazers strove to transform the practice of commercial art from a “mere problem solving” trade to “graphic design”: to the status of a discipline complete with its own history, knowledge base, set of practices and theory. Yet in the current economic climate, educators and institutions alike are pressured to move from simply maintaining the relevancy of their discipline, to the capitalization of that relevancy in a market that is shaped by media, communication and technology—the very “stuff” of graphic design. But media, communication and technology are aspects of graphic design’s infrastructure, not its content. It is still necessary for the graphic designer to conceive, express and manifest ideas in visual, i.e. graphic, form.

In our role as visual conveyors of ideas, our discipline is both a profession and a (underdeveloped) form of inquiry. Writing about another material practice, architecture theorist K. Michael Hays recognizes that the visual manifestation of ideas—our reality—is the product of values maintained by culture. Hays points out that values precede their manifestation in visual form. “The real is not just there before some materially symbolic practice makes it manifest. [Graphic design] has the ability to grasp something absent, to trace or demarcate a condition that is only there latently.”¹ As graphic designers we need to be able to make images and question the values reflected in those images. But graphic design still needs to develop the scholarly apparatus necessary to recognize its unique contributions to culture and society from the inside.

Graphic design still needs to ask serious questions about its meaning, about its representation of society and the values it selects for display (as well as those values it chooses to obscure). Graphic design needs to take up complex questions of meaning which reside beyond the immediacy of the brief, questions which offer ways to reflect, reinvent, and evaluate. While the competencies outlined by the “AIGA Defining the Designer of 2015” survey emphasize professional competencies, they diverge from requiring an emphasis on scholarly competencies (which may be understandable given that the AIGA is a professional organization).

In responding to the above concerns, a number of questions that graphic design educators need to respond to include: •How do educators ensure that students are capable of engagement with contemporary culture and retain a awareness of their own history? •How do educators provide students with a mechanism to question graphic design from a scholarly perspective in a studio culture that emphasizes skills, clients and the profession, all the while not losing sight of the fact that graphic design is a client and public-based practice? •How do we provide existing educators with the conceptual tools to engage the discipline of graphic design, recognizing that in general, faculty themselves are the products of programs which have emphasized professional skills rather than disciplinary inquiry. •How do educators write curricula which gives students the ability to question the meaning of graphic design, and not simply respond to the needs of a brief? •How do educators carve a space to pursue humanist inquiry in the face of institutional pressures which emphasize corporate and industrial market applications?

1. Hays, K. Michael, *Architecture’s desire: reading the late avant-garde* (Cambridge, MA: MIT Press, 2009) p.12

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Peter Chuah / Hong Kong Polytechnic University

“Changing landscape: A Reaction to ‘when communication design education meets research’”

From the education standpoint, teaching and learning communication design are essentially different from the traditional form of educational experience, because teaching and learning take place in the design studio and any given design tasks are constantly under the scrutiny of critiques from both peers and faculty members and in some cases from the invited guests. However, being different doesn't necessarily promote complacency regarding the status quo or endorse self-satisfaction and contentment with the old tradition if design is to be grown as a discipline. While the existing model may work well for preparing students to meet today's market needs, there is still a need to critically reconsider if it is sustainable educational strategy to prepare students for the future market that is fundamentally volatile and unpredictable. The landscape of education is changing as a result of knowledge economy, globalization, digitization and emergence and convergence of information and communication technology. A new form of literacy is necessary to transform teaching and learning in the 21st century.

While current practicing designers begin to move away from designing in isolation to cross cultural and disciplinary boundaries and embrace collaboration in design, traditional studio pedagogy has not evolved significantly despite recent technological developments. Furthermore, introducing the research component into the existing curriculum adds additional challenge to both educators and students. On one hand, design educators need to reevaluate the existing teaching strategies and to rethink how and when research components should be introduced to the design curriculum; on the other hand, students need to unlearn and relearn how research is conducted and how the findings can be used to support and inform their design decisions in the more participatory, human-centered design paradigm.

How ready are design educators to meet all of these challenges? What could design educators do to consider and capitalize on the potential of research to complement and inform current visual communication design that has always been designer-centered?

This paper presents some of the preliminary results from an on-going study of infusing a research component into design curriculum in the context of teaching visual communication design in Hong Kong. Specifically, this paper will examine some of the issues the field of (visual) communication design is currently facing with supporting evidence from existing literature, and share some findings as a result of observations made during teaching design research for visual communication subjects and reflective journal entries from 15 year two students. In general, the feedback from students was mostly positive and promising with exceptional. Two students commented that they saw little value from such learning experience. In addition, the authors will also share their involvement in the redesign of a new four year communication design curriculum that gradually introduces research components at various stages to bridge the gap between research and practice.

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Clive Dilnot / Parsons the New School of Design

Questions of, for and about “research” in design

I should like to raise some questions about the notion of ‘research’ in the contemporary and emerging design practices of this century.

I think there is no question that over the next decades designing will become a much more knowledge-intensive activity. As the basic set of praxiological capabilities and capacities through which the artificial realm is shaped in relation to the environments it mediates (natural, human, and the existing ‘second-order’ realm of the built and the made) the increasing sensitivity of these relations (in terms of their potentially catastrophic or beneficent consequences vis-à-vis the world) and the increasing complexity of the range of significant relations subtended by artificial phenomena of all kinds, means that designing will have to lose some of its formerly largely intuitive ‘innocence’ with respect to the consequences of what seemed at one time merely formal decisions.

It is not that in the future such decisions will disappear. On the contrary, the capacity for configurative discrimination and imagination is of the essence of practice in the coming century—it is what the century requires. But design can no longer be considered merely a formal activity, disengaged from more serious consequence. The address of design (as increasingly, one would hope, a re-directive practice) will be less to the ‘thing itself’ and more to the depth of the context/s that are spoken to and which are implicated or acted upon. This implies a much greater—or not merely formal or conventional—comprehension of the human, natural, ecological, social and political-economic contexts which are mediated and addressed by design. Design accesses knowledge concerning such contexts in order to more adequately calibrate its intervention into them (to take their measure, and to offer designed configurations that can help us move from ‘existing to preferred’ situations).

Once consequence of this is that the differentiation between the realm of things and images and language and knowledge—a differentiation which once seemed almost complete—dissolves. In a world made artificial, artifice is the embodiment and exemplar, the exemplification (Goodman) of our knowledge and understanding concerning the artificial and its relations. Conversely, in a such a world knowledge is not simply a mental phenomena nor are things merely the vehicle for information. The neat bifurcation between making and knowing, doing and thinking, acting and cognizing breaks down. “Things” made are as much propositions concerning understanding as they are (say) tools or means of habitation. Conversely, understanding is no longer a merely cognitive phenomenon; it does not stay in mind, but instead now means “understanding how to act in, and in relation to, the artificial world.” Understanding does not therefore arise from knowledge “applied” to things but from things and situations (experiences)—which themselves model understandings of the artificial world.

These two developments: design as the capacity to calibrate an intervention into complex (artificial) situations and design as a mode of understanding of how we can inhabit (well or badly) the artificial world, both call for a greater deployment of knowledge and understanding. In the present—which stands as a kind of transitional stage between what we might call the ‘industrial’ and the truly artificial epochs of design (roughly 1760-1960/80 and 1980/2000-2100+)—we see this transition to a practice where questions of making, thinking, knowing, understanding, intervening are not differentiated (cf. Heidegger’s triumvirate “Building Dwelling Thinking”)—take an uncomfortable form, the marriage (which is not a marriage at all) of more or less traditional design practices and “research.” Hence, the Design Research Society, hence the PhD in design, hence university research projects; hence, in short, all the apparatus of the research “industry.”

But what, if anything, is the value of this apparatus? Is the marriage of design and research a marriage made in heaven or in hell? Is it, in truth, a productive relationship—or is it based on a failure to comprehend the nature of the knowing and understanding required in design? Is there, in this emerging relationship, any adequate understanding of the limitations of research? Has the theoretical basis of research—so well laid out in Heidegger’s essay “Age of the

World Picture” (see especially pages 117-127-of William Lovitt’s English translation in *The Question Concerning Technology* [New York, Harper, 1977]) being fully understood? Are in its sociological aspects (and limitations)—equally well if briefly laid out in Arjun Appaduri’s trenchant essay “Grassroots Globalization and the Research Imagination” [in Arjun Appaduri (ed.) *Globalization*: see especially pp. 9-14] and in the chapters in Pierre Bourdieu’s *Pascalian Meditations* [Stanford, 2000]) —thought through? And especially from the side of design, have we thought through the question of the relation between “research” and the knowledge that design requires and needs?

I quote these papers that contextualize the question of research because it seems to me that these are essential critical considerations which the current enthusiasm for research in design neglects at its peril.

Let’s be clear what we are talking about here. We are saying—and this point seems generally accepted—that design, increasingly, involves and will involve knowledge (though I would personally prefer the broader and more accurate term, ‘understanding’). But if we agree on this the issue comes with what seemingly follows, i.e., that knowledge is, for us, in our ‘technological’ epoch, the form that understanding takes, and research is the means and methodology through which certain knowledge, reliable knowledge, knowledge on which we can base action, can be delivered to us. It is on this basis that research becomes an indispensable moment of design—even if in practice the word is presently used, especially in education, more talismatically (as the ‘magical’ justification of a-priori decisions) as on the basis of true practice.

To put this another way; while agreeing that design will increasingly involve knowledge (and hence also and of more account perhaps, the capability to translate knowledge into configured form, whether tangible or experiential) the question we have to ask is whether ‘research’ (in the ways we currently explicitly and implicitly understand and fail to understand, this word) is the appropriate mode for gaining such knowledge. We have to ask whether the knowledge that is delivered through “research” is equal to knowledge per se; more fundamentally we have to ask about the relation between research, knowledge and understanding; and more fundamentally still, if we are to deploy research as the mode of knowing in design we have to ask as to the conditions of its application and translatability. Finally, the word and the practice of ‘research’ cannot be naively utilized without examining the origins, structure and sociology of both word and practice.

The latter is key not only to prevent design yet again acting with a naivety (and again adopting models and metaphors that have at best an inexact reference) but to attempt to understand what is involved in the relationship between theory (knowledge) and practice, and in particular what is involved in design (and research) as modes of knowledge and understanding. If we do begin here we have to ask some hard questions about the nature of the real(s) to which design and research separately refer. They matter because whereas design constitutes a practice whose essence is the annulling of the indifference of form towards content research drives practice in an entirely opposite direction.

Take one instance, illustrated by this quotation from Lukacs: ‘Every object exists as an immediate inseparable complex of form and content. However, the diversity of subjective attitudes orientates praxis towards what is qualitatively unique, towards the content and material substratum of the object concerned. [But] theoretical contemplation [i.e., research] leads to the neglect of this very factor, for theoretical clarification and theoretical analysis of the object reach their highest point just when they reveal at their starkest the formal factors liberated from all content (from all ‘contingent facticity’).’ (RCP, 126). In other words, research holds the subject matter in a manner in which its formal characteristics can come to sharp ‘objective’ visibility. But praxis (design) demands that the object or experience that is the subject matter of concern is comprehended as a form whose basis is substantive and which does not ‘rest on ... freedom from every definition of content.’ Even more: in so far as design is a praxis, i.e., a ‘prescription for changing reality, [then] it must be tailored to the concrete material substratum of action if it is to impinge upon it to any effect.’ All this suggests a sharp diremption between the given, fact-based and invariant world that research uncovers and what design posits as a mode of transformative action. Of course, in practice this dilemma is overcome (or so we say) through the translation “backwards” as it were, of the formal precepts discovered by research into the configuration of the ‘concrete material substratum’ of the experience in question. This act of translation is the work of design.

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Sean Donahue / Art Center College of Design

DILEMMA: What bodies of knowledge is design responsible to? To whom are the discipline's contributions to inform? What beliefs do we justify as truth? It is with these questions that design has the ability to sculpt its history, frame its futures and explore meaning in our present. Empowering the discipline and the designer to be independent, "self" critical and engage in knowledge production that shares its lens of the world ethically and progressively with others. That said, much of the discussion regarding design research in education is framed by the perpetuation of a service provider attitude resulting from how and where practitioners have applied design knowledge in the past.

Creating a dilemma—precisely at a time when research or structured inquiry could provide the discipline a vehicle to develop new modes of knowledge production and areas of contribution (for design and others), the conversation is dominated by identifying how design can fit into the existing needs, methods, infrastructures and validation criteria built to support the epistemological foundations of other bodies of knowledge—their methodologies, their knowledge production needs and modes of outcome communication and dissemination.

Given this dilemma the Academy has a unique opportunity to broaden the discourse, broaden the discipline of design and challenge the larger ontological questions of the atlarger knowledge production community—beginning with asking and responding to the following:

- What do research and research outcomes need to be to support design? Our questions? Our contributions?
- To embrace (not ignore) the unique affordances and characteristics the discipline has a past with—serendipity, delight, joy, pleasure and ambiguity as areas of valuable knowledge expression, formmaking as a methodology for analysis and synthesis, multi-modal inquiry and knowledge production.
- To create a community and criteria that vets out how and where there may be a value in these—for design, for others (precisely at a time when they are asking the same thing of themselves)?.
- Identify a working criteria and qualifications for defining and scrutinizing rigor and validating outcomes of design research (Move the discussion beyond the reliance on observability, generalizability and reproducibility as the unquestionable default criteria).
- To question where and to whom the discipline's contributions can inform. And develop vehicles to support that—dialogue. With the above, design becomes a mature, proactive, and responsible discipline from which confidence can be built on by others. It provides a sustainable framework for the discipline to grow and change over time—based on its own rigor and critical investigation—not singularly on the perpetual response to the expectations and requirements of others based on their needs, infrastructure and desired use of our abilities.

The challenges this presents design education range from changing the way knowledge is expressed and transferred in the classroom to larger educational philosophies (moving beyond educating students to fill roles in preexisting contexts that have a singular intent for design knowledge), working with the Academy at large to create a "dialogue" regarding the participation in the institutional necessities of conducting research in the Academic arena and beyond (i.e. negotiating methodological frameworks for IRB review, Human Subjects Policies and design specific case studies and ethics, etc.). If we focus on Design's rich epistemological foundations we can envision new opportunities while also developing a research culture that builds bridges and engages directly the wider bodies of knowledge that exist in both Academic and Professional ventures. All the while advancing and building on Design's rich history of structured inquiry as a means to expand how we know the world around us for everyone.

Design Research: Building a Culture from Scratch

Anne Galperin / State University of New York, New Paltz

DILEMMAS: Three dilemmas from the bottom up, described, plus some questions

Dilemma #1 : student expectations of design practice

Too much “me,” not enough “us.”

Design at its best is an “us” endeavor from start to finish: collaborative conception and awareness of needs, design / prototyping / testing, production, distribution, use and feedback from (what many of us hope are) socially positive objects and experiences.

But many of our students come to us in a “me” frame of mind, envisioning a design practice that places their subjectivity front and center. More often than not they arrive through a process of elimination: other subjects seemed too demanding, they are right brain thinkers, they “like computers” (parents still say this though the screen interface has come to largely define many of our experiences).

Most undergraduates still move through a fine art foundational program where the rhetoric has much more to do with form-making than problem identification.

Questions: How do we represent the essence of design practice at the very front end of our programs, attract and identify students who have the requisite interests and abilities? What are the implications of re-branding graphic design practice as research-based practice? How might AIGA and NASAD work to further clarify the relationship and the legitimate differences between art and design education, particularly at the undergraduate level?

Dilemma #2 : a dearth of supportive coursework

Particularly in teaching students how to undertake primary research, it becomes clear that even in liberal arts institutions requiring math and science coursework students’ observation, data collection and analysis skills are generally uneven and weak. (This also makes it more difficult for design students’ applications to pass Institutional Review Boards.)

Questions: How might design curricula incrementally introduce research skills? How might design educators and students link to other relevant programs within their institutions to enrich student learning of material generally not found in design programs? What new courses might be collaboratively created cross institution? What options exist for students in schools specializing in art and design for linkage with other institutions?

Dilemma #3 : institutional procedures

Building a meaningful research culture, particularly in undergraduate design programs, requires reckoning with complex and time-consuming Institutional Review Board procedures.

Through the IRB prism design research projects are generally regarded similarly to work undertaken in social sciences including psychology, sociology, anthropology. But IRB procedures and timelines are challenging to reconcile with semester-long projects and faculty and students alike might opt to not pursue IRB approval. One trade-off is for student to use their classmates as research subjects; depending on the research question, this yields a small pool of questionable variety and validity. Another workaround is to agree to not publish results outside the classroom, limiting the productive usefulness of what are often quite significant findings. This “practice” research is in stark contrast to the parameters other students, particularly those in journalism and media studies, are subject to when they interview individuals, observe situations, collect documentation and publish articles.

Question: How may design educators productively engage institutional requirements to support relatively shortterm, meaningful research projects while respecting and protecting research subjects?

In conclusion, this prospectus raises three unresolved issues in design research at the student, curricular and institutional levels hoping to spur solution.

Design Research: Building a Culture from Scratch

Michael Gibson / University of North Texas

The Challenge of (Mis)Measuring Success in Design Research

DILEMMA: One of the unexpected “knowledge yields” that emerged from the recent National Science Foundation’s (NSF’s) efforts to ontologically and epistemologically contextualize design within the realm of the sciences was a growth in the understanding among many design researchers of just how dangerously bad for design this idea actually was (and still is). Simply put, what transpired during the so-called design science workshops that were hosted at four American tier-one research universities in 2008 and 2009 revealed that trying to frame the processes of design research as endeavors that could be causally rather than coherently guided would actually defeat design’s essential purpose of facilitating change by facilitating invention. By attempting to make the case that design could and should benefit from immersion in the realm of positivistically, scientifically guided inquiry, the workshop organizers inadvertently articulated exactly why it should not be, at least to the majority of the workshop participants who possessed design backgrounds. Any attempt to “improve” upon design processes by attempting to ensure that their outcomes are quantitatively replicable inhibits design’s ability to deliver that which has not yet existed, as opposed to merely delivering an innovative manifestation of that which has existed before. The clarity with which the workshop participants who possessed design backgrounds understood this was not replicated among the workshop participants who possessed backgrounds in the sciences, engineering and technology.

Design research is, by design, supposed to yield unique outcomes—the decision-making processes that guide it are inherently iterative and heuristic, and therefore inherently human and flawed and unpredictable. This requires the acceptance of the fact that sometimes the outcomes of design research processes can and do fail, and the real risk of failure, as a research process outcome, is unacceptable to many who believe that research processes should be rational, wholly systematic and precisely organized undertakings. These types of thinkers are bolstered by the belief that research processes that are guided by positivistic paradigms yield “provable results,” which, among many in the scientific, engineering, technology and business communities, equates with “successful results.”

The NSF is peopled with thousands of people who think this way, as is the National Institute of Health, as are thousands of other governmental organizations, along with even more small-, mid-sized and large businesses, many of which are currently engaged in the process of “trying to bring design into their operations” as a means to force it to meet their need to approach and manage processes of change. This is also occurring as many design research programs are evolving their curricula to accommodate more trans-disciplinary interaction between their faculty and students and those from disciplines other than design. Because of these factors, the challenge to sensitize these research partners about learning the unique values (and validities) inherent in “designerly ways of knowing” as a means to advance socio-economic and socio-cultural innovation has become acute. In turn, this has created a need for the designers and facilitators of design research curricula to confront the increasingly complex challenge of attempting to measure and effectively describe the measure of success of design research in terms that will not compromise its fundamental objectives of contributing to the improvement of sustainable well-being.

More specifically, if the primary objective of design research is truly “the development, articulation and communication of design knowledge,” and if design research must also be “interdisciplinary and disciplined,” those who attempt to teach it as such need to re-think how they present the types of results it can achieve or at least abet. The learning experiences they facilitate within their curricula should prepare these diversely informed students to effectively operate within and contribute to the improvement of complex, ever-evolving and interwoven networks of individuals, organizations and enterprises. Within these networks, success, as Manzini advocates, should be determined by whether or not particular individuals and population groups are enabled as co-producers of their own well-being, the success of which may not be measurable in empirical terms. Design educators who facilitate design research curricula must also meet the challenge of teaching their students that success can also be measured in terms of how effectively dialectic exchanges between disparate groups can be facilitated, and how effectively inclusive, pluralistic synergies between seemingly disparate paradigms and strategies can be formed and sustained.

Design Research: Building a Culture from Scratch

Lisa Grocott / Parsons the New School for Design

DILEMMA – ‘Design research’ can mean a lot of different things as the context statement of this conference observes, but for the purposes of the argument put forward here the emphasis is on research that primarily seeks to make a contribution to design knowledge by working with the practice expertise of the designer. There has been much international debate about designing as a research method, with arguments for and against presenting a range of different perspectives. One interesting position to consider here is the case made by Jonas that research through design provides the only “genuine design research paradigm” that can advance the methodological practice of the discipline (2007, p187).

Given that it is hard to deny the contribution of academic scholarship – from protocol studies undertaken by social scientists to extensive treatise put forth by design philosophers – many scholars might wish to contest this claim. Yet his point is not to dismiss the merits or importance of what he would call research about design, he is simply highlighting that for design research to be distinctive from other humanities and social science disciplines it would need to draw on designing as a methodological approach to researching.

This prospectus seeks to draw attention to two tangential dilemmas – in what could be characterized as a designerly move to see if in drawing a connection between these two points new ways of seeing the situation might arise. Both dilemmas are framed by the seismic societal shifts that are transforming our understandings of practice and challenging our long-held notions of what constitutes a strong design education.

The first dilemma arises from the perceived need for the design academy to generate empirical research that can help advance our collective understanding of design as well as how other disciplines perceive design. This call for empirical research poses a dilemma if the design academy also seeks to build a research culture that accommodates the expertise of the practitioner-researcher and embraces the potential of designing as a research method. For some would argue that the situation-specific, often tacitly understood knowing of design practice cannot match the methodological rigor of other disciplines.

The second dilemma arises from this notion of tacit knowing or more specifically the implications of allowing the design practitioner to remain only tacitly aware of the sophisticated, complex way that he or she acts and thinks through making. For the dilemma facing design here is the need for the practitioner’s voice to contribute to how we define a 21st century understanding of design knowing. At the same time recognizing that most practitioners refrain from participating in abstract conversations about design praxis since the designers’ education prepares the practitioner to talk in an object-oriented way about the form and a situation-specific way about the project. The reason for drawing together these two very specific concerns of practitioner research and a designer’s tacit knowing is due to the direct significance they can both have on how we might conceive not just what we teach but how we educate future designers.

In sketching this connection this prospectus proposes the potential of a project-grounded approach to practitioner research that might provide a strategy for interrogating a designer’s tacit understandings of practice. In squarely framing the objectives of the research in relation to how we understand design and not in relation to the designer’s practice, the practitioner-researcher is challenged to communicate practice insights that would resonate with other practitioners. For this approach to have traction the process for externally consulting others on the relevance of the research would be critical. The process of corroborating the individual practitioner’s insights could transform the way we present and critique work – creating a discursive space for explicating one’s understandings of design for others to refute, accept or refine.

No doubt it would be healthy for us as a community to have a breadth of methodological approaches and there are a variety of productive ways we can and should tackle the issue of tacit knowing in design. Yet, if we assume that the academic design community may find it easier to recruit faculty and graduate students into the role of

researcher if this did not require them to leave his or her practice expertise behind, then it seems at least worth debating the opportunities and limitations of the design project playing a grounding role in research about design. We already have a faculty well-versed in the lexicon associated with the object-oriented practice of design, but if we accept Davis's challenge to engage in designing at the level of communities and systems then as designers we need to be able to explicitly account for the knowing that we bring to a project or collaboration (2008). From this perspective it seems pertinent to not let the practitioner-educator defer to the humanities, management and social scientist scholars when it comes to the critical conversation of articulating the capacities and limitations of how designers think and act.

Davis, M. (2008). 'Why do we need doctoral study in design?' *International Journal of Design*, 2(3); Jonas, W. (2007). 'Design research and its meaning to the methodological development of the discipline' in Ralf, M (ed) *Design Research Now*, Birkhauser, Basel, pp.187-206.

Design Research: Building a Culture from Scratch

Kate LaMere / East Carolina University

DILEMMA: Graduate level education must be addressed and advanced in the form of the Ph.D. in Design to develop a culture of graphic design research. However, there are a variety of obstacles to reaching this goal.

As the outline for this conference states, currently “there is limited curricular distinction between the research behaviors expected of undergraduate and graduate students.” Research at the master’s (MFA) level still tends to focus on high-level design problem solving centered on professional practice. MFA candidates use the same ‘research’ methods as undergraduates, but undertake larger and more complex problems. Generally MFA students pursue research in the form of investigations about clients, user and usability studies, and other forms of enquiry directly related to practice. This type of work leads to the mastery of the skills, abilities, and techniques of graphic design – the definition of master’s level graduate study.

The master’s degree, by definition, does not delve deeply into philosophy; that is the purpose of the doctorate of philosophy for any discipline. The Ph.D. is concerned with not only the mastery of a subject, but also developing and extending knowledge (through research) that contributes to a body of knowledge. Doctoral level research in graphic design, unlike research at the master’s level, should not necessarily be concerned with the direct application of research to professional practice. This is essential to the development of a culture of research in graphic design that extends beyond exploration of how to practice design and the artifacts of design. Doctoral level research in graphic design must, by definition, explore the philosophical underpinnings – the ontology and epistemology – of graphic design.

Today, even with the existence of a half-dozen Ph.D. programs in Design in the US, and even more in the UK and Australia, the number of academics with the Ph.D. in Design in the US is still quite small. The MFA draws vastly more students. There are a variety of reasons that the Ph.D. has not gained popularity and momentum among both academics and those pursuing graduate study. These issues must be addressed to advance the Ph.D. in Design and develop a true culture of research in graphic design.

First, there is confusion, frustration, and anger about the role of the Ph.D. in Design practice and education, its relationship to practice, and its purpose. Those who have already earned masters’ degrees in graphic design are, understandably, afraid of a new class of doctoral level academics who, they fear, might usurp their positions within the academy. Others question why a doctorate is needed when the academy has functioned without it for decades. The roles of the MFA and Ph.D. need to be explored, explained, and communicated to academics, students, and professionals.

Obstacles within the academy include the lack of academics with Ph.D.s for mentoring and teaching doctoral students in design. Further, there are a variety of approaches to doctoral design education among educators and institutions. Confusion persists about what constitutes ‘research’ within graphic design. While variety is healthy, there needs to be some consensus about the various methods for doctoral education in design, and distinction drawn between various approaches. Research methods, theory, and the body of graphic design knowledge all need to be evaluated, defined, and disseminated to the academy and profession.

Graphic design, as exists in both the academy and practice, must tackle and overcome these hurdles. The dilemmas outlined here are just the beginning of a long series of questions, introspection, and discourse that must occur to move the profession of graphic design forward. Without the development of a the Ph.D. in Design, graphic design ‘research’ will not advance beyond usability studies, client research, and advanced problem-solving

Design Research: Building a Culture from Scratch

Ellen Lupton / Maryland Institute College of Art

How We Teach Writing

Provocations: How do we differentiate between undergraduate and graduate curricula in ways that privilege speculative and research-driven work as what is “advanced” about terminal degrees? As a field, how do we build curricular depth in rigorous research methods under a professoriate that is trained largely in professional practice? What other disciplines can serve as exemplars for research behaviors and where does design need to chart new territory?

Writing is low-tech, low-res, and low-bandwidth. It also has a remarkably low tolerance for error. From easy-to-fix grammatical errors to flaws in style, flow, and continuity, mistakes in writing send immediate signals about an author’s competence. A poorly written document is hard to enjoy and tough to take seriously. If designers are going to generate and disseminate original research, one of the tools they will need is writing. We can’t publish scholarly research if we don’t know how to tell a story or build an argument.

At the graduate level, we often assume that students have adequately mastered basic writing skills. Alas, this is not the case. Many designers fulfilled their undergraduate writing requirements by writing “for the teacher” rather than writing for readers. They are thus unprepared for real-world communications, in which a text must engage with readers in order to succeed.

Graduate program directors need to incorporate writing instruction into our curricula if we expect our students to produce scholarly research or text-based documentation of creative thesis work. Learning to write is different from learning research methodologies. Writing is an art and a craft whose rules, conventions, and competencies deserve focused attention in their own right.

Not all MFA students seek to do scholarly research; many come to graduate school in order to advance their professional skills. Writing is invaluable to these students as well, since any management-level or entrepreneurial design position involves verbal tasks such as bidding for jobs, justifying design solutions, delivering presentations, and marketing one’s work. Even routine email communication requires command of the written language. (Some of my students seem to believe that just because they can’t spell, their clients or employers won’t be able to, either.)

Writing is taught in various ways. Since the late 1970s, the movement known as Writing Across the Curriculum (WAC) has argued that writing should be taught in every course on campus, not just in specialized composition courses. Because each discipline—from art to engineering—has its own standards and conventions, faculty in each field should be teaching its own practitioners how to write. Yet few design educators have the time or confidence to load this duty on to their studio courses.

Another approach is to integrate visual literacy with verbal literacy. Basic composition textbooks such as *Picturing Texts* (2004) address design as an active, generative tool. Assignments include creating book covers, postcards, scrapbooks and brochures as well as traditional essays. Thus “design across the curriculum” is emerging as an informal parallel to WAC.

Although these cross-disciplinary, multimedia approaches to teaching writing have much to offer, there is no substitute for teaching writing as a stand-alone medium. At the MFA level, such courses need to explore basic style, from crafting a seaworthy sentence to paring down over-upholstered prose. Offered for liberal arts credit, such courses should be taught by skilled writers, with content geared towards design research topics and appropriate publishing genres (scholarly writing, critical writing, creative nonfiction, etc). Writing is a precise, rule-based medium of communication. It is fundamental to the research process.

Design Research: Building a Culture from Scratch

Stuart McKee / University of San Francisco

There are many historical precedents for community groups worldwide who have built their respective cultures and cultural identities from “scratch.” In his book *The Invention of Tradition* the historian Eric Hobsbawm has written extensively about the ways in which a variety of groups have fabricated cultural traditions that appear to be natural and timeless for both their users and observers. Moving against the idea that ethnicity is resolutely biological, the sociologist Eugene Roosens wrote *Creating Ethnicity: The Process of Ethnogenesis* to argue that many modern-day ethnic groups have successfully established their ethnic distinctiveness through the creation and promotion of a unique material culture. Following the precedents established by these thinkers, my personal body of design research investigates the development and representation of historical identities that have seemingly come from nowhere. I am interested in the processes that cultural groups have used to move themselves into history from the position of the unknown and the ahistorical, and I offer the following abstract to describe some of the ways in which I am currently meeting these objectives:

Missionary printers working in the United States territories during the first half of the nineteenth century believed that they would best secure the new country’s expanding frontier by assimilating indigenous peoples to the culture of the printed page. By following one of the dominant philological traditions of their time, the missionaries John Pickering, Jotham Meeker, and Cyrus Byington independently established non-standard orthographies and transcribed the Choctaw, Delaware, Shawnee, Otoe, Ioway, and Pottawatomie languages into visual specimens that could be examined against other native languages as well as their own English language. On the one hand, Pickering, Meeker, and Hamilton employed the technology of letterpress printing to teach native peoples to read and to introduce native peoples into the print cultural record. On the other hand, these men used their orthographies to impose the dominant American language models of their time on indigenous peoples and subsequently began the process of erasing native culture from the American frontier environment. By fitting Native American languages into the formal tradition of Western typography, these printers transformed their primers, spelling books, and religious publications into products that were recognizable and exciting to cosmopolitan audiences on both sides of the Atlantic. For audiences then and today, these publications read as attempts to silence the “strangeness” of non-Western cultural difference while making that strangeness formally compatible with the Western bibliographic tradition.

As the example of the 19th-century missionaries illustrates, design researchers and practitioners who have been trained within a dominant culture will sometimes view their design production as something that they can freely use to impose their knowledge upon other peoples, despite the fact that such strategies of development can, in turn, suppress community-based knowledge systems and learning methods.

It is the planned objective of the “New Contexts/New Practices” Design Research authoring group to discuss methods for constructing a responsive design research culture “from scratch.” I would like to argue that any such objective must always involve the selection or appropriation of an esteemed set of cultural practices along with the “scratching out” of other, less-worthy practices, including some that may nevertheless be relevant to a minority of users or useful within atypical research contexts. If I am selected to serve as a member of the Design Research authoring group, I would bring to the discussion an informed response to the following set of personal research concerns: How do we, as design educators, initiate a proactive and shared design research culture that does not follow the structure of a dominant or universal research model? How do we allow research to remain multi-vocal and account for cultural complexity within both professional and academic contexts, allowing for the participation and representation of the widest possible range of community perspectives? Regarding the terms for design researchers’ engagement with the industry and the private sector, how do we introduce new knowledge into new publication formats that move against the sublimation and privation of community knowledge and values?