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## USER STUDIES

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User Studies: Finding a Place in Design Practice and Education

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COLLABORATION

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DESIGN METHODS

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DESIGN RESEARCH

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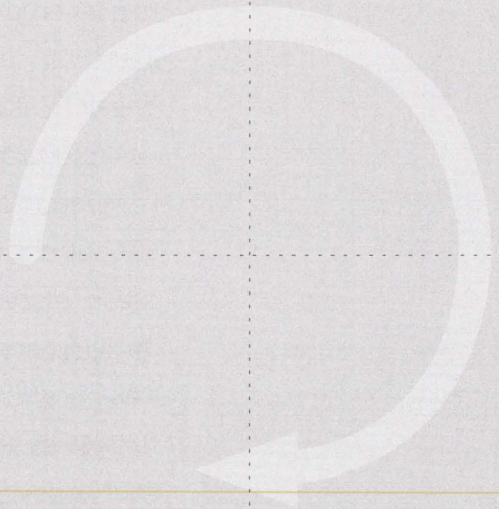
## USER STUDIES

How do we convince designers of the value,  
the utility of user research?

Why do we need to convince them of something that seems so obviously  
critical to successful design?

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## USER STUDIES:

### Finding a Place in Design Practice and Education

JAY MELICAN

#### ABSTRACT:

User study is investigated through discussion among practitioners whether in industry or education. Issues of terminology, the early efforts to study users along with more recent approaches such as context determination are explored. Arguments for these studies revolve around economics - is there a pay-off to such study - and ethics - rooted in participatory design and championed by designers. Nevertheless there is resistance to user studies on many fronts. Weaknesses in the various arguments are revealed. The difficulties in practically moving from user study data to design implications and realization are also examined, along with various design method strategies and how these relate to an integrated user study / design process. The general need for method classification and clear understanding is flagged as an issue in cross-disciplinary, shared development work

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It may be that our work is too specialized – that there are simply not that many people whose job it is to plan and conduct user studies for design. On the other hand, it may be that it is commonplace – an activity that nearly all designers do but that few would feel warrants any special attention. It could be that we are isolated from one another by the institutions in which we work – that our work is located across dissociated industries; we work on medical equipment, high-tech consumer electronics, home appliances, retail environments, automobiles, etc. Or is it that our jobs scatter us throughout organizations – in marketing departments, on product teams, in research labs – to such a degree that we never meet as colleagues to discover that we share common pursuits and concerns? It may be that we just don't have *enough* in common, that we do not all consider ourselves ergonomists or usability analysts; that we are designers, and anthropologists, and sociologists and psychologists and computer scientists.... It might be that we just weren't sure there would be enough for us to talk about if we were to come together.

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Whatever the reason, there seem to be few official occasions that bring together the diverse group of academic and industry researchers involved in user studies for design. When the occasion presented itself during the 2byTwo Symposium held in Chicago in May of 2003, it turned out that the user studies community has more than enough to talk about. In fact, some fundamental issues were discussed and debated, including questions of who we are, what we do, how and for whom we do it. Highlights of those discussions are presented here.

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Who is the user? Who are we?  
And where do we go from here?

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One of the liveliest debates – having spawned two published responses since the symposium concluded (Marcus, 2003, Knemeyer, 2003c) – was initiated by Dirk Knemeyer’s challenge, directed at the user studies community, to find a better term than “user” to describe those individuals with whom we engage during our design process and who themselves engage with the end results of that process.

As a designer of dynamic, web-based information systems, Knemeyer takes the position that the term “user” is the anachronistic remnant of times and technologies past. When software interfaces were slow and inflexible, designers may have been primarily concerned with communicating to “users” the procedures they were intended to follow. But people do more than *use* a web site; they interact with it, play with it, are entertained and informed by it; they converse with its owners, post their comments, critique its content and design, contribute to its creation.

“The term ‘user’,” Knemeyer (2003a) writes, “reduces those who interact with our creations to something almost sub-human, a piece to be moved around on a board, as opposed to a rich, multi-faceted person.” He suggests that we adjust our use of terminology to reflect the shift into a “participation paradigm” (Knemeyer, 2003b). Designing *with* “participants” rather than *for* “users,” Knemeyer argues, we explicitly recognize the symbiotic nature of our relationship. Participants may engage in active, extended, vested relationships with designers and their creative work.

New technologies and new media – specifically the Internet – clearly play a part in provoking this reconceptualization of the relationship between designers and “users”/ “participants.” New media, in fact, may have lived up to (and outlived) the hype that surrounded its debut in the early 1990s. Who then could have imagined that a single, and fairly typical project for a web designer in the early twenty-first century might call for expertise from domains as diverse as publication layout, motion graphics, broadcast standards, game development, software engineering, interface and interaction design, identity and branding...? What designer of printed communications could have fathomed the impact that the World Wide Web would have on his rarefied technical skills? Who could have dreamed that published content might so easily be reshaped in response to readers’ feedback – in response to “users’” patterns of interaction with it? And who would have thought that “users” would so quickly come to expect and demand the opportunity to express their opinions? Or that each user interaction, any page-turn or mouse-click might be instantaneously logged, analyzed and fed back into a digital process of individually customized redesign? Who could have imagined that it might be so difficult even to distinguish the designers *from* the users?

While the “participation paradigm” may have sprouted from the opportunities and exigencies of web-based design, the sentiment it captures is not limited to that domain. The “user” in user studies is a term that many of us would agree seems somehow inadequate, possibly even demeaning. After all, it carries with it connotations of exploitation and drug addiction.

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In response to Knemeyer's appeal for an evolved terminology, Aaron Marcus (apparently unconvinced that "participant" represents the only or most suitable alternative to "user") has compiled a list of labels that he has encountered over the years in his dealings with clients from a variety of industries. In certain circumstances "users" may be: actors, addicts, consumers, customers, guests, human beings, learners, men, objects, occupants, participants, persons, patients, people, readers, subscribers, stakeholders, subjects, targets, victims, viewers, visitors.... (Marcus, 2003) Each nuanced term suggests concern with a particular aspect of our "user"; each suggests a certain relationship that we as designers might adopt vis-à-vis the "user." Some terms could be considered politically incorrect; some seem potentially too restrictive in allowing us to consider our "user's" full experiential range. In the end – and despite general acknowledgement of its shortcomings, it is difficult to come up with a satisfactory alternative to the term "user." None other seems suitable for as many occasions. (For lack of a better term, and at least for the purposes of this report, "user" will have to suffice.)

In any case, the real issue here is not which word we prefer – not whether, as a community, we can agree on one term to serve our many purposes. The real issue is the fact of the debate itself, which Marcus (2003) suggests "...is evidence of a profound change in the profession that focuses increasing attention on user-centered design, user profiles and use scenarios."

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It could be argued that the design professions have, in fact, changed even more profoundly than Marcus supposes. A cursory review of the current state of user studies – of prevailing theoretical and methodological tendencies – certainly seems to confirm that the field has shifted its attention away from a narrow focus on isolated objects, tasks or screen interfaces. Further, it suggests that the scope of our inquiries already has begun to outgrow interpretive devices such as user profiles and use scenarios – which all too often come off as two-dimensional, stereotypical, uninspired and uninspiring representations of the rich complexity of human experience. Currently, user researchers are struggling with how to capture, understand and represent this complexity in a way: that genuinely respects the user; that recognizes the inter-connectedness of the micro-scale (of individual user/product interactions) with the macro-scale perspectives (of social, industrial and natural systems); and that is meaningful and useful to the process of designing innovative and more humane applications of technology.

The past two decades have seen significant shifts in the design professions and in their acceptance and incorporation of user studies. These changes have been encouraged to a significant degree by design professionals involved with the development of computing and communication systems or of high-tech consumer electronics who are called upon to design “user experiences” rather than isolated, single-task-oriented tools.

But there have been multiple simultaneous threads of practical and theoretical development leading up to this point in the history of user studies for design. Architectural design led the way with early environment-behavior studies, post-occupancy evaluations and the development of participatory techniques that included voices from the community in the processes of urban planning. In the domain of systems and cybernetics, procedural models of user activity have evolved into complex models of socio-technical systems. The sphere of ergonomics and human factors has expanded from an exclusive concentration on users’ physical and cognitive capabilities and limitations to include

consideration of the softer, social and cultural (and even emotional) factors that influence design. (Whitney 1993).

Early research, conducted by Lucy Suchman and others (Suchman, 1987), demonstrated that user actions and interactions are not easily described or prescribed through procedural models – that, as designers, we need to concern ourselves with the situation, the context in which a designed object will be used or a task accomplished. Having learned the value of understanding the context in which users interact with an artifact, message or system, design researchers more recently have turned their attention to clarifying exactly what might constitute that context of use.

Again, we find the advent of new technologies – especially ubiquitous, environmentally-embedded computing and communication systems – figure as a primary driver of this quest (Swanson et al., 2003): “As technology systems within organizations grow more complex, encompassing a greater variety of users, tasks and environments, the contexts in which they are used increase in both number and diversity. ‘Context’ no longer is a single monolithic entity encompassing the entire system, but a collection of smaller, more specific contexts.”

Swanson, Galvao and Sato define context as comprising anything that indirectly affects a system and its use. Context must be understood, they claim, as comprising, at the same time, global and persistent elements – such as institutionalized roles, relationships and practices – and the local, ephemeral constellations of influences that shape any single situation of user/system interaction. These global and local forces of influence could include the physical environment, economic and regulatory environments, the social relations in which an interaction or activity of use is implicated, cultural mores and customs and organizational policies and practices, familiarity with and acceptance of technology, biographical histories or individual users, their attitudes and beliefs, their familiarity with and acceptance of a technology or way of accomplishing a task.... (Swanson et al., 2003) Such a broad definition of context implicates a

dizzying array of possible influences. Each of those forces need to be understood, but, Swanson and his colleagues suggest, understood only in terms of their potential or actual influence on the system's use. A complete examination and analysis of context in this sense would require the analytic contributions of a formidable cross-disciplinary team.

This project of redefining context is in keeping with a larger trend: an expansion of the scope of user studies, or, perhaps more accurately, the evolution of a dual focus. While keeping sight of the details, researchers are zooming out for a look at the big picture as well – designing for a particular point of user interaction and, at the same time, considering the dynamics of large scale social systems and contemplating the reciprocal influences of human behavior and material culture.

We can see this dual focus as corresponding to the distinction between constructionist and structuralist schools of social theory or, in terms of research approach, between the ethnomethodological and the ethnographic. While the ethnomethodological approach focuses in on the meaning of a particular interaction as it is interpreted “on the spot,” the ethnographic school takes a more expansive view of how interactions are structured, and webs of meaning constructed, within a social group or community.

As the knowledge base of user studies expands, as practitioners continue to push at the edges of their discipline, stretching its boundaries and finding its connections to other fields, the challenge we face as researchers is one of explaining and demonstrating how such studies fits with design. How do we fit it into design projects – as far as a project manager is concerned, as far as a client might be concerned, as far as the designer him- or herself is concerned? How do user studies fit in the design process? And, as a sub-discipline, how should it fit within the design curriculum and the design classroom?

## Making the Case for User Studies

Our two-day assessment of the current state and possible futures of user studies in design culminated in the collaborative generation of an outline for a hypothetical textbook (see figure 1). We decided that the first chapter of a textbook should be titled “Why Study Users?” It is a question posed frequently and from many directions – a request to provide some rationale for the time and expense required for user studies, a demand to justify what we do to others and to ourselves. In answer to it, we might resort to a variety of different arguments: an economic rationale, an ethical rationale, a practical rationale.... Often times it is not simple, in making any of these cases, to argue from a position consistent with dominant ideologies of post-industrial corporations and of the design profession.

FIGURE 1:

CH. 1	Why Study Users?	○						
CH. 2	Who are Users?	○						
CH. 3	Historical Development of User Studies	○						
CH. 4	Ethical Treatment of Human Subjects			○	○			
CH. 5	User Variables		○	○	○	○		
CH. 6	How to Learn about Users			○	○			
CH. 7	Getting from User Studies to Design			○	○	○	○	
CH. 8	The Future of User Studies	○						
CH. 9	Vernacular Design & User Customization		○	○				○
CH. 10	Managing User Data		○	○	○	○	○	○

Understanding the Fundamentals  
 Explore Project Content  
 Create User Research Plan  
 Conduct Research  
 Evaluate, Iterate  
 Integrate with Design Process

Figure 1: Chapter titles of a hypothetical textbook on user studies and the phases of the design research process to which they correspond.

An economic rationale is demanded by the department managers, by project managers who need to be convinced that the research phase of the project should be scheduled for more than three days, by the client who wonders what exactly is going on during those blocks of costly consulting time set aside for research. Attesting to the difficulty of constructing a convincing economic rationale is the predictability with which conference workshops and break-out sessions are scheduled for discussion of the return-on-investment of usability and user studies.

Evaluating the economic impact of a design improvement through usability studies and prototype iteration, it might seem, would be a straightforward demonstration of the value of user studies. If appropriate metrics are determined, and if comparable data are collected before and after the redesign, one should be able to determine that there are fewer calls made to customer support after a design change than were made before, or that it took fewer mouse-clicks for people to find the information they were looking for, or that more visitors to a web site registered for that site or purchased something. But metrics such as these can be misleading in their apparent simplicity. While, relative to other design researchers, they operate under the most controlled of conditions, even usability analysts recognize that it is nearly impossible to isolate a design intervention as the only variable in before-and-after studies. What else could have changed at the same time and might at least share responsibility for transformations of user behavior or opinions: the launch of a new marketing campaign; a pool of users that skews toward returning visitors who have experience with the site; the institution of regulatory protections which decrease the perceived risk of identity theft, and therefore the risk of conducting online credit card transaction...?

And if it is difficult to demonstrate the direct economic value of a usability study, imagine trying to calculate the return-on-investment of exploratory, front-end user research. It is nearly impossible to isolate user involvement in a project as the only variable in a comparative study of design projects.

Furthermore, comparing the costs of investing in usability studies to the costs of providing support for customers who experience problems with product use is often times a disingenuous endeavor. Daniel Rosenberg, Vice President of Development for Usability at Oracle Corporation points out that companies do not bear the full cost of problems with products; users bear the bulk of the cost in frustration and loss of productivity. And as more companies charge for customer support services, users bear the real financial costs as well (Rosenberg, 2003).

In some measure, the economic value of conducting user studies is obvious, albeit difficult to quantify. Clearly it is cheaper to fix problems earlier in the product development process than later. It may be that the appropriate response to the question of return-on-investment of user studies is: Please rephrase the question. What would be the cost of not doing user research?

The ethical rationale for user studies is one championed by the participatory design community, with deep roots in the design of workplace environments and tools in Scandinavian countries. Judith Gregory (2003, 64) observes:

User participation in design is desirable for several reasons with mixed motivations: 1) improving the knowledge upon which systems are built; 2) enabling people to develop realistic expectations and reducing resistance to change; and 3) increasing workplace democracy by giving the members of an organization the right to participate in decisions that are likely to affect their work. The first two rationales for user participation are not unique to Scandinavian participatory design; they are found in several system development approaches. It is the third motivation - the desire to increase workplace democracy - that is culturally and politically based in Scandinavia, in legislation and in participatory design approaches."

This is a position that is almost unrecognizable from the American perspective of American industry. And, as Gregory makes clear, it is one that, even in Scandinavia, requires constant readjustment. While Scandinavian participatory design approaches continue to strive for democracy, structural changes in the global economy, in the values of corporations and trade unions and in the nature of networked resources complicate the project of workplace democracy and further limit its appeal as a rationale for conducting user studies.

Perhaps the most troubling demands for justification of user studies are those that come from other designers. They may not be as common as they once were; one does not often hear designers arguing *against* the value of user input. But they are not unheard of, and those from whom such demands may come tend to be in pursuit of a very practical rationale: Why would a designer do research? What do I need to know about users? What is it exactly that I should be trying to understand about them? And how is that going to help me design?

While we have number of responses at the ready, none seems convincing to designers who are reluctant to be convinced. We claim to be uncovering unarticulated needs. The unfortunate phrasing of that claim can make it hard to swallow, as one treads a slippery slope between recognizing an unarticulated need and creating a perceived need. If the need is unarticulated, is it really a need or is it simply an opportunity to make a product that will sell? We claim the value of user studies is in helping to identify user variables. But what are the right variables to look for? What is the significance of variations in cultural backgrounds, environments, language...? How can knowledge of these user attributes help with customizing designs for particular segments of the potential consumer population? We can safely, if ambiguously, declare that user studies are meant to inspire and inform design. But designers do not necessarily feel the need for inspiration from other people.

At the very least we should be able to convince the design community of the value of user studies. Whether we acknowledge it as a separate and distinct phase of the design process or as a specialized skill, all designers study situations of use. We struggle to program our VCRs; we attempt to read moving type on Flash-driven web sites; we try to work throughout the summer in modernist greenhouses. We see others doing the same. But where they complain, we criticize and imagine how it might be different. It is, after all, what makes us designers. But knowing one's own experience is not the same as understanding how others experience their worlds and value the material artifacts with which they are surrounded. Building that understanding is something that requires time and resources. When user research is not budgeted into a project, designers do it anyway; we do it on ourselves, on our co-workers, on our friends....

But the question remains: How do we convince designers of the value, the utility of user research? Why do we need to convince them of something that seems so obviously critical to successful design? What's the disconnect between user studies and design?

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How do we convince designers of the value, the utility of user research? Why do we need to convince them of something that seems so obviously critical to successful design?

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## Making the Leap from User Studies to Design

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Designers commonly find themselves working together with non-designers; it's not unusual for project teams to include both designers and social scientists or for a project contract to bring together two otherwise distinct groups: a user research team and a design team. Unfortunately, neither is it unusual for disagreements to arise in that situation between the designers and those conducting user research – disagreements concerning the role and value of the research, when and how it should be introduced to the team or to the client, and how, in general, the designers are to make use of research data. Researchers may accuse designers of “cherry-picking” through their data, responding to isolated bits of information while ignoring the larger findings. Researchers often may feel that designers jump to conclusions about users, proposing solutions to problems that were only hinted at, without having developed a full understanding of the user population.

Communication across disciplines can be problematic. Social and behavioral researchers may have difficulty understanding how designers are using their insights and findings. At the same time, designers generally have great difficulty articulating what part those findings play in the creative process of designing. This tension in the working relationships between user researchers and designers has been attributed to the “applicability gap” (Mitchell, 1993) – the space between user research meant to inform design and the actual creative processes of design. No matter which side of the gap you are standing on, all communication problems, it seems, stem from the other side's ignorance of what you do. So what do we need to do to bridge this gap?

The applicability gap, it seems, is primarily a communication gap - a problem with aligning the intentions of user researchers with those of designers. What we lack is the ability to explain to our fellow designers the value of user research by making explicit its connection to the design process. Models of design process are, of course, many and varied, and, for the most part, of interest only to project managers concerned with resource allocation and stodgy professors of design methodology. In fact, as our symposium discussions wound down, the group attempted to link the issues which we identified as being pertinent to user studies (and which we decided would warrant their own chapters in any textbook on user studies) with corresponding phases of the design process (see figure 1). In the end, I must confess, I am not sure we were able to convey through this exercise the significance of user research in the activity of designing. Where our matrix of associations falls short, I believe, is in failing to convey any direct association of user research methods and data to *design thinking* processes.

Here I must diverge only slightly from our symposium discussions to consider two different approaches to conceiving of design processes that make more readily apparent the role of user studies: one which considers design as an information-driven process and a second, related way that takes a more constructionist approach to understanding design activity as design thinking in action.

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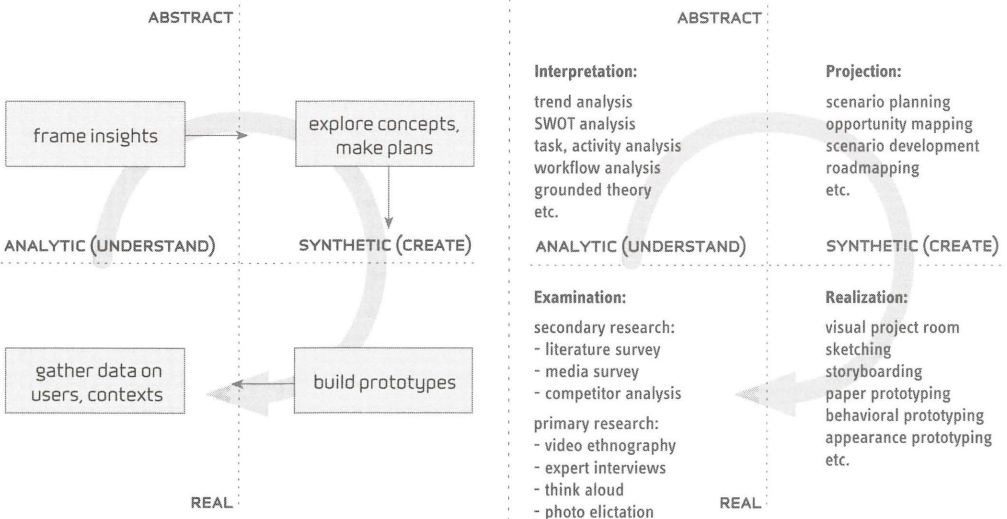
FIGURE 2:

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Figure 2: A modified version of Charles Owen's diagram of design process with methods mapped to it.

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The first is through the work and ideas of Charles Owen and specifically through his versatile representation of design processes. The diagram reproduced here is one to which Owen has returned over the years to describe everything from the structure of the graduate design curriculum he helped develop (Owen, 1998) to the specialized planning functions which distinguish modern design practice from traditional craft (Owen, 1993). In 1997, a group of students used Owen's diagram to map the methods that were being taught and used in class projects at the time by designers at the Institute of Design. Those included not only prototyping and concept visualization techniques, but tools for analyzing the business environment within which a proposed design solution must survive and methods aimed at understanding users (Melican, 1997). Most recently, this structured description of design methods was used to present the methodologies associated with innovation planning. (Kumar, 2003)



Owen's model makes clear the distinction in design activity between abstract, mental work and work in the physical world of real stuff. It also distinguishes between modes of understanding and modes of creating. Using it to position design methods further clarifies their role in designing, and highlights the interdependencies of data gathering methods, interpretive approaches, conceptual representations, and prototyping techniques. In trying to understand the real world through empirical investigation, we employ methods of observing and interviewing users. This examination or data collection results in raw data. In interpreting those data, we develop analytic frameworks that capture pertinent insights. Still operating in the abstract, we may reconfigure the set of relationships we have understood to be present in the current situation to project a possible future state – a concept proposal or plan. It is through the realization of those concepts – making them real, as prototypes – and through their introduction into the real world that they can be scrutinized and evaluated for their fit within the intended context.

Design is an iterative process, an ongoing conversation that occurs between our minds – our imaginations, and the real world of stuff into which our designs will be introduced. Engaged in the activity of designing, we switch seamlessly between these modes of thought and action. It's a process that Donald Schön (1983) calls "back-talk": observing our domain of interest then modeling some aspect of that domain in a way that captures our understanding of it; sketching out an emerging concept or plan then stepping back to determine if our plan might achieve what we intend it to; studying a situation to identify project stakeholders then generating a diagram to communicate the possible relationships between them; building a working prototype that demonstrates our idea to teammates and potential users then putting it out there to determine how it performs in the real world.

The benefit of Owen's model is that it impresses upon us the distinction between, while implying the relationships between, techniques used for gathering data about users and the analytic tools we use to frame that data in potentially productive ways. It recognizes information structuring as an important component of design process – an essential skill to design thinking, and reminds us of what constitutes good analysis; the right analysis is the analysis that works, that moves you forward in the creative act.

Another way of thinking about how user studies provide useful information to designers is to look at designers – actual designers engaged in the act of designing – as they apply the information provided through user research in their creative problem solving processes. There have been a number of limited studies of user-informed design activity. They range from retrospective accounts presented as case studies to detailed analyses of the minute-by-minute proposals, considerations and decisions made by designers in action.

My own dissertation research was a study of the second sort; it was concerned with understanding how designers apply user research data in defining a problem space and in developing solution ideas. Through an empirical study (consisting of the observation and analysis of the activities of small teams working on a given design problem in a laboratory setting), I found that designers productively apply user research data in: 1) formulating the design task (bounding their problem space using the data available to them, as well as their personal knowledge); 2) identifying themes in the data – which are often formulated as pairs of opposing terms (problem definition / solution it suggests, or a solution proposal / problem it reveals); 3) finding structure in the data – that is, developing an organizing, conceptual structure to facilitate their framing of the design problem and generation of solutions to it; and 4) constructing models of user behaviors, including narrative scenarios of use based on the real-world stories in the data.

This description of user-centered designing is not inconsistent with Owen's model of design thinking. They both highlight the activity of finding structure in user data. Both position it as a *design* activity – a critical component of design thinking-in-action. And here I should emphasize two implications of this conception of creative, design problem solving. The first is that an analytic framework cannot be constructed in isolation from its synthetic counterpart. Or, to put it another way, the only understanding of user research data that matters in designing is an actionable understanding. An analysis that is conceived without the explicit or implicit goal of propositional reconfiguration, while it might just happen to be useful, is as likely to be useless. The coherency of a proposition or plan is related to the structure of the analytic framework, just as the analytic framework is dependent upon the type and quality of research data and the means by which it was collected. All of that is a complicated way of saying that when we interpret and analyze user data, we must do it as designers – as part of a design activity.



the only understanding of user research data  
that matters in designing is an actionable  
understanding

The second important implication of these descriptions of user-centered designing has to do with *how* designers develop actionable understandings of users and contexts of use. Those understandings bubble up, as organizational structures, *from* the data; interpretations are tried on for size, evaluated for their potential as design moves, and immediately cast off or modified in a dialog between the data and the designer's intent. There are lessons to be learned here – lessons we can apply as we consider the make-up and division of labor on design teams, and that we can apply as we develop methods and tools for the analysis and management of user research data. Rather than distribute the responsibilities of understanding and creating between two groups: user researchers and designers, we should consider them part of the same activity. Rather than imposing structure on user research data, we should take a cue from the social sciences' well-developed methods for qualitative data analysis – particularly from the techniques of grounded theory and activity theory (Gregory, 2000) – and work toward developing a sensitivity for discovering concepts in the data.

But bridging the applicability gap certainly can't be simply a matter of clarifying how designers think. The other half of the equation depends upon a clearer articulation of the methods and tools that researchers employ to gather and analyze user data.... What are their inputs and outputs? How do they function to support design thinking? As dissertations, as models, as case studies or examples of best practice, these methods and their applications need to be shared between practitioners and incorporated into our design curricula.

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## Sharing the Tools of the Trade

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Despite a relatively long history of user studies in design, there has been little done in the way of cataloging research methods most commonly used to inform design processes, classifying them, or identifying those most suitable to the task. A 1980, government-sponsored survey of behavioral research methods used in architecture is one of the most complete catalogs (Rubin and Elder, 1980). Its presentation of environment-behavior research methods is structured according to the senses through which “the users of buildings experience th[o]se environments...”: hearing, vision, and the olfactory sense, as well as tactile perceptions of temperature and movement.

A concise booklet prepared at the Royal College of Art’s Helen Hamlyn Research Centre (in conjunction with a conference on designing for the special needs of the elderly) categorizes user research methods according to the resources each requires for implementation. In addition, methods are grouped according to their applicability to design projects in which research may be included toward different ends: those projects concerned with influencing the physical or purely visual qualities of a design, as compared with projects in which user research may play a part in determining a product’s functional specifications (Aldersey-Williams et al., 1999).

The task of classifying user research methods is complicated by a tendency on the part of design consultants to “invent” their own proprietary research methods. While one could try to list the many user research methods that design firms claim to have incorporated into their work processes, a good number of those methods would employ similar techniques toward very similar ends. On lists of user research methods we find references to techniques such as: “guerrilla ethnography,” “physical trails,” “live in the future,” “cultural probes,” ....

While it may serve to impress clients and differentiate a consultant from his or her competitors, such idiosyncratic re-naming of what are essentially standard (if creatively adapted) research techniques, does a disservice to the field as a whole. Teaching user research methods to designers is made difficult enough by corporate policies on intellectual property which keep the most interesting and developed case studies of research application out of public circulation. Obscuring the nature and origin of useful research technique just adds to the confusion. That is not to disparage those who engage in creative adaptation of research methods...as long as they are clear on which familiar tune they are riffing.

There have been attempts made to sort out the mess that is design research methods. In a 1992 article written for the Design Management Journal, Liz Sanders characterizes product development research methodologies as falling into five general categories: observation, classification, conversation, description and participation (Sanders, 1992). Sanders stresses that these approaches or “perspectives” are, in practice, complementary, and that designers (or design teams) should use them together in combination in order to arrive at a truly well-rounded view of the context of use. Her classification scheme is insightful and helps her to make her point – a well warranted warning against relying too heavily on one approach to understanding users. Moreover, it begins to get at a *basic* typology of design research methods – one that cuts through the haze of proprietary distinctions to expose the common building blocks of research technique. Most recently the consulting firm IDEO has produced a deck of cards, each of which describes a technique that the firm employs “to empathize with users.” Following Sanders, they categorize their research techniques according to four basic methodological “suits”: Learn, Look, Ask and Try. IDEO encourages other practitioners to try the methods they have found useful, declaring, “Our techniques are not proprietary and have been adapted from various established human and social research methods.”

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## Summary

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I will conclude on an upbeat note, as did our discussions. User studies, it seems, is maturing as a (sub-) discipline in a way that builds on and extends its cross-disciplinary bonds. It certainly faces challenges in finding a place in design practice and education. But, whether or not design practice and education find a place for user studies, the interdisciplinary cross-fertilization that has been set in motion will inevitably lead to exciting new breeds of creative practice.

As the sole contributor charged with summarizing two days worth of rich conversation and debate on all matters relating to the study and practice of user studies in design, I should first apologize to my colleagues for any perceived omissions or unwarranted emphasis they may find in my report of our discussions, which I recall through the filter of my own personal interests and opinions. Moreover, I must acknowledge and thank them for their substantial contributions to the thoughts outlined above. Over the course of two days our user studies discussion group was treated to presentations that were largely case studies: Design and Risk Management in Different Cultural Backgrounds, Kok-Hin Terry Chan and Pierre-Henri Dejean; Mental Models Readers Develop while Navigating in the Web Environment, Maria Gonzalez de Cosio; Two Contrasting Cases in User-centered Design, Judith Gregory; Korean Modern Wall Painting, Jo Hyunshin; Participation - The Human Paradigm, Dirk Knemeyer; User Insights Knowledgebase, Vijay Kumar; Development of Design-support System for User Research, Kun-Pyo Lee; Design Process for Innovation Using Shadowing and User Models: A Samsung Project, Aaron Marcus; Conversations with Users, David Sless; Wrangling Contexts: Influences and Domains, Eric Swanson; Project F - A Look to the Future through User-centered Methods, Jan-Christoph Zoels; and my own contribution, Design Ethnography to Inform Next Generation Communication Technologies, Jay Melican. Responding to those papers and offering their own perspectives on user studies were Leif Allmendinger, Suzan Boztepe, Roman Duszek, Jorge Frascara, Maria Giudice, Ronald Hofer, Gøsta Knudsen, Tore Kristensen, Judith Moldenhauer, Christena Nippert-Eng, Guillermina Noël-Frascara, Alain Rochon, Karel van der Waarde, and Dietmar Winkler.

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