

STUDIO INSTRUCTORS TALK ABOUT SKILLS, KNOWLEDGE, AND PROFESSIONAL ROLES IN ARCHITECTURE AND LANDSCAPE ARCHITECTURE

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ABSTRACT: This article examines the attitudes of studio instructors in architecture and landscape architecture departments throughout the United States toward the designer's role, sources of knowledge and inspiration in design, related disciplines, and essential skills. A cluster analysis of instructors' responses to a questionnaire identified five groups according to conceptions of professional identity: master designers, communicative designers, political designers, researcher designers, and those who see design, research, and political skills as almost equally important. The two most common self-conceptions are "master" and "negotiator." In-depth interviews with some instructors further elucidated each approach. The results revealed the coexistence of a multiplicity of ideas and convictions within a shared ethos and suggested various strategies for increasing the effectiveness of design education and practice. The article concludes that the professional identity of designers is being transformed from that of isolated creative individuals to that of politically active professionals.

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378

In the latest report on the state of architectural education and practice, Boyer and Mitgang (1996) summarize the most critical issues identified in similar studies done over the past 60 years. Concluding that many of these issues still resonate today, they propose a new vision centered on connecting schools and the profession more effectively to the changing social context. This recent study, like previous ones, identifies the isolation of the architectural discipline as a major impediment to realizing that vision. Their specific recommendations are for an inclusive institutional context that nurtures excellence in research, teaching, and knowledge application; a connected curriculum that integrates different knowledge domains and inquiry methods, connecting these in turn to the changing needs of the profession and society; an open and communicative learning environment; a more unified profession based on sustained collaboration between the academy and the profession; and service to the nation through civic engagement.

The knowledge and skill components implied by these recommendations shape the self-conceptions of students as future professionals. Self-conceptions inspire and influence professional roles, expected activities, and approaches toward design. These are in turn passed on to novice designers via education. We investigated studio instructors' conceptions of professional identity by asking them about the designer's role, essential skills, sources of knowledge and inspiration in design, and reliance on related disciplines. The new vision implies the transformation of the professional identity of designers from that of isolated creative individuals to that of politically active professionals. Are the current studio instructors positioned to achieve this transformation? Do their convictions correspond to the new vision?

We found that the great majority of instructors share a core conviction that places master value on design. Even those instructors who emphasize additional skills that correspond more to the new vision still hold onto the core conviction. In the past, this conviction has isolated the design disciplines from other disciplines and from society at large. Here we argue that design education ought to recognize and resolve the inherent tension between self-conceptions of designers as "masters" and as "negotiators," the latter emphasizing political, communicative, and research skills.

DESIGN PROFESSIONS AND THE APPROPRIATION OF KNOWLEDGE POWER

Various scholars have emphasized the special role of knowledge in establishing professional power in contemporary societies. Foucault (Philp, 1985)

argues that power is no longer identified with individuals who possess it by right of birth; it is a machinery that no single individual or group owns. In the modern context, institutions and the knowledge they appropriate become the main source of power. Scott and Roweis (1977) identify knowledge with a special type of guidance power that does not command but shows the proper way. Thus, in a democratic society, knowledge has strategic significance in guiding decisions that involve communication, cooperation, collaboration, and negotiation among multiple voices. Forester (1988) emphasizes that power has a lot to do with the nature of these relationships, especially in a context of uncertainty. Whether a profession or discipline has sociopolitical power in postindustrial (late capitalist) society depends on the strength of its linkages to other knowledge bases (while it claims its own core) and to a pluralistic society. Therefore, to have knowledge power in the current context, design theory needs to be produced and applied in an open dialogue that demands and accepts significant substantive contributions from other voices.

The professionalization of design and the establishment of norms of objectivity are linked, each process reinforcing the other. Larson (1979) notes that depersonalization of knowledge plays an important role in unifying a professional field. She argues that the condition for the unification of a professional field is that a group of professionals should be ready to propagate one paradigm, and this group should have enough persuasive or coercive power to carry the task through. This task is easier when knowledge is depersonalized by formalization, for all depersonalized knowledge tends to become objectified, if not objective. The more formalized the cognitive basis, the more the profession's language and knowledge appear to be connotation free and objective. A scientific basis not only produces a more formalized language but also links a profession to the dominant system of cognitive legitimation (Larson, 1993).

Considered as minor professions (Glazer, 1974) compared to other professions such as engineering and medicine that have an established scientific foundation, design disciplines are faced with the challenge of replacing experience-based knowledge with objective, rational, research-based knowledge. This process is referred to as the "scientization" of design: the transformation of conventional areas of practical activity and knowledge acquisition by the application of the empirical-analytical methods of positive sciences (Studer, 1988). The positivist conception of knowledge—in which practice is idealized as a linear process that begins with research-based information—becomes problematic, however, as a guide to design practice because it focuses on knowledge abstracted from its context and separates the enter-

prises of research and design (Innes, 1988). On the other hand, as a profession, we know little about the social processes that turn knowledge into action (Cuff, 1991; Innes, 1988).

We now recognize that effectiveness in a politically challenging environment requires new knowledge and skills. For example, a designer's skill at negotiating may determine the outcome of a project. The uncertainty inherent in many planning and design processes affects the means to command power as a designer. Designing, as a social practice, is above everything else, "making sense together in practical conversations" (Forester, 1985, p. 16; see also Cuff, 1991). Cuff notes that the notion of communication implies a social context in which designers must interpret a situation in collaboration with others through conversation and action to reach agreements. In this process, designers can shape a meeting's agenda, determine the range of options, and encourage some options over others.

DESIGN AS MASTER VALUE OR DESIGN AS COMMUNICATION AND NEGOTIATION?

The transformations in the professionalization of design disciplines point toward an increasing tension between designers' conceptions of themselves as masters and as negotiators. In general, there is a transformation from the ideal image of the designer as a creative individual, isolated and engaged in the formal issues of design, to the ideal image of the designer as a politically active member of designing/building teams. Design professions have not yet resolved this tension, and as a result designers are not in control of their field as much as other professionals.

As many scholars of design practice suggest, even those designers who have the most idealistic conceptions of their professional roles work daily with others (Blau, 1988; Cuff, 1991; Gutman, 1988; Saint, 1985). The myth of the isolated artist is sustained both in professional practice and in education. Because their identity depends on the value put on design, design professionals give design the master value. Furthermore, design is considered important only insofar as it is considered to be art, and creativity is defined in this narrow sense (Blau, 1988). In the world of the practice, many designers are frustrated by the lack of opportunity to use skills and knowledge acquired in training and especially the lack of opportunities to participate in design (Blau, 1988). Studies that have explored design in its social context question the myth of the heroic designer who pursues at all costs his or her personal vision in the face of society's mediocrity.

The overriding importance of program and constraints in design practice suggests that the active part of designing involves politics more than drawing or even imagining (Larson, 1993). Larson notes that politics means, among other things, trying to commit the client to an idea and deciding what and when to compromise. Local land-use and design review processes involve politics with actors making conflicting claims on one another. There is always a multiplicity of agendas and issues with which designers need to deal. In public meetings, the doing happens through the saying; the talk is what matters. As developers and planners talk, they explore issues, probe one another, test ideas, and seek to influence one another in various ways (Forester, 1988).

When design is seen as a social practice, the inputs of other parties become part of designing. Knowing how to communicate with nondesigners, being able to acknowledge a conflict of interest as a political challenge, and knowing how to be an active party in a political context become inseparable parts of knowing how to design. Knowing when to try to mediate and when not to, and being the stronger party in the negotiation, become important. This kind of knowledge can be gained through specialized training. Today, designers need communicative and critical skills to become influential in politically challenging situations and effective in communicating with various parties. Such a claim involves more than learning the art of communication: It has implications for the relevancy of knowledge domains and sources and for exercising professional power based on legitimate knowledge.

SURVEY OF DESIGN INSTRUCTORS: METHOD OF APPROACH

Design educators, especially studio instructors, propagate the dominant belief systems in schools—especially in upper-level studios, where attention to political context and research both before and during a project are part of the assignments. We called departments of architecture and landscape architecture nationwide to obtain the names of design instructors who teach such studios, and we randomly selected two instructors from each department. To make comparisons more reliable, we included only the campuses that had both landscape architecture and architecture, the only exception being the University of Wisconsin, where the departments are on two different campuses.

In April 1995, we sent a total of 128 surveys to the two instructors in each of the 64 departments—32 instructors in architecture and 32 in landscape

architecture. Seventy-nine surveys were returned; thus, the overall response rate was 62%. Of the 79 respondents, 43 were from landscape architecture departments and 36 were from architecture departments. Out of a total of four questions, two used rating scales to rank design, critique, communicative, political, and research skills and various professional roles. The other two were open-ended questions about the sources of knowledge and about disciplines considered to be related to design fields.

In addition, we interviewed 11 architecture and landscape architecture instructors at Cornell University, the Harvard Graduate School of Design, the University of California, Berkeley, and the University of Wisconsin–Madison. These schools were chosen because they had well-established design departments and were located in different parts of the country. The interviews were based on a preestablished protocol with a set of open-ended questions, but additional questions also were asked depending on the interviewee's responses.

Eight of the interviews were conducted after the survey was drafted but before it was revised and mailed. The draft was given to the instructors after the interviews to complete as a pilot survey. Various techniques for asking questions were tested for clarity before the actual survey was revised. Three instructors were interviewed after the surveys were mailed; these interviewees filled out the final version at the end of the session.

Our research approach is consistent with Strauss and Corbin's (1990) concept of grounded theory and uses the idea of thick description (Geertz, 1973). Both these research approaches allow structure to emerge from multiple sources and types of data.

The first question in the questionnaire rated six categories of skills on a 4-point scale of importance (see Tables 1-3). The second question rated, on a 3-point scale, the likelihood that students would in the future assume four different categories of professional roles (see Tables 4-6). These responses subsequently were converted into numerical values and analyzed by Ward's minimum variance cluster analysis method (using SAS). This analysis identified five clusters among the respondents, differentiated according to what the instructors felt to be the most important skills.

For each cluster, we analyzed the open-ended responses to the next two questions about the sources of knowledge and inspiration and the disciplines and professions that were considered relevant. In the profiles that follow, quotations from the interviews help to capture the multiple voices and richness of the discourse within each cluster.

TABLE 1
Skills as Rated by the Respondents in Architecture
and Landscape Architecture Departments (percentages)

<i>Skill</i>	<i>Most Important</i>	<i>Important</i>	<i>Somewhat Important</i>	<i>Least Important</i>	<i>No Answer</i>
Ability to develop strong design ideas	75	23	1	1	0
Ability to follow research literature	9	49	33	10	0
Ability to critique design projects	38	49	14	0	0
Ability to explain design to clients	43	45	11	0	1
Ability to take an active political role	15	38	38	9	1
Ability to conduct research for projects	15	61	18	5	1

RESULTS: CONVICTIONS ABOUT DESIGN, RESEARCH, AND DESIGNER'S ROLE

Table 1 shows the combined responses of landscape architecture and architecture instructors to the question about importance of various skills. The majority of respondents rated the ability to develop strong design solutions in the "most important" category, followed by critiquing design projects, communicating with clients, and taking an active role in a political context, in that order. Research skills ranked equally with political action if they were applied to a specific project but lower if they were applied to the research literature in general.

In general, the responses suggest that architecture and landscape architecture respondents share similar convictions regarding skills, professional roles, and professional identity (see Tables 2 and 3). The two disciplines share a general view that design students need traditional design skills more than communication and research skills. On the other hand, architects and landscape architects have differing views of communication and political skills. Architecture respondents see them as ways of convincing clients and others involved. Landscape architecture respondents interpret them as skills that help designers to take active roles in a politically challenging context. Probably because of the scale of their projects, the landscape architects emphasized the political aspects of designing more than did the architects.

TABLE 2
Skills as Rated by the Respondents in Architecture Departments (percentages)

<i>Skill</i>	<i>Most Important</i>	<i>Important</i>	<i>Somewhat Important</i>	<i>Least Important</i>	<i>No Answer</i>
Ability to develop strong design ideas	72	25	0	3	0
Ability to follow research literature	6	47	39	8	0
Ability to critique design projects	39	53	8	0	0
Ability to explain design to clients	36	47	14	0	3
Ability to take an active political role	6	36	42	14	3
Ability to conduct research for projects	11	56	25	6	3

TABLE 3
Skills as Rated by the Respondents in Landscape Architecture Departments (percentages)

<i>Skill</i>	<i>Most Important</i>	<i>Important</i>	<i>Somewhat Important</i>	<i>Least Important</i>	<i>No Answer</i>
Ability to develop strong design ideas	77	20	2	0	0
Ability to follow research literature	11	50	27	11	0
Ability to critique design projects	36	45	18	0	0
Ability to explain design to clients	48	43	9	0	0
Ability to take an active political role	23	39	34	5	0
Ability to conduct research for projects	18	66	11	5	0

Although the majority of the instructors saw all types of roles as equally probable for current design students, they found only two of them very appropriate: “working for large firms” and “being responsible for all aspects of projects in small firms” (Table 4). A high percentage of respondents from architecture placed “working for large firms with multidisciplinary teams” in

TABLE 4
Professional Roles as Rated by the Respondents in
Landscape Architecture and Architecture Departments (percentages)

<i>Skill</i>	<i>Most</i>			<i>No</i>
	<i>Likely</i>	<i>Likely</i>	<i>Unlikely</i>	<i>Answer</i>
Specialization in research	13	40	38	10
Working for large firms in teams	54	43	0	4
Specialization in traditional tasks	16	59	21	4
Responsibility for projects in small firms	41	44	10	5

	<i>Very</i>	<i>Somewhat</i>	<i>Inappropriate</i>	<i>No</i>
	<i>Appropriate</i>	<i>Appropriate</i>		<i>Answer</i>
Specialized roles for research expertise	21	66	3	10
Working for large firms in teams	54	28	3	16
Specialization in traditional tasks	11	44	29	16
Responsibility for projects in small firms	56	25	4	15

the most likely category, whereas landscape architecture respondents considered that option somewhat less likely than "being responsible for all aspects of projects in small firms." The architects ranked "working in small firms with more responsibility" as more appropriate than "working for large firms in teams," whereas for landscape architects, the opposite was true. In other words, both groups foresaw some dissonance for their students between the jobs students might want and the jobs they were likely to get (Tables 5 and 6).

Both architecture and landscape architecture respondents favored roles that give as much responsibility as possible to the designer, whether in large firms or in small offices. Roles that require specialized knowledge and/or skills were viewed as less likely and less appropriate than roles that give designers control over a project as a whole, whether the specialty requires research expertise—such as postoccupancy evaluation—or traditional skills—such as graphics and grading. Although specialization in research was not viewed specifically as inappropriate, it was not seen as a likely role for most graduates.

There was a wide variety of responses to the open-ended question about the sources of knowledge and inspiration in the design studio, but no pattern of differences between the two disciplines. We categorized the knowledge

TABLE 5
Professional Roles as Rated by the Respondents
in Architecture Departments (percentages)

<i>Skill</i>	<i>Most Likely</i>	<i>Likely</i>	<i>Unlikely</i>	<i>No Answer</i>
Specialization in research	14	36	42	8
Working for large firms in teams	72	25	0	3
Specialization in traditional tasks	22	72	3	3
Responsibility for projects in small firms	33	50	14	3

	<i>Very Appropriate</i>	<i>Somewhat Appropriate</i>	<i>Inappropriate</i>	<i>No Answer</i>
Specialized roles for research expertise	17	64	6	14
Working for large firms in teams	50	25	6	19
Specialization in traditional tasks	8	39	33	19
Responsibility for projects in small firms	64	14	3	19

TABLE 6
Professional Roles as Rated by the Respondents
in Landscape Architecture Departments (percentages)

<i>Skill</i>	<i>Most Likely</i>	<i>Likely</i>	<i>Unlikely</i>	<i>No Answer</i>
Specialization in research	11	43	34	11
Working for large firms in teams	39	57	0	5
Specialization in traditional tasks	11	48	36	5
Responsibility for projects in small firms	48	39	7	7

	<i>Very Appropriate</i>	<i>Somewhat Appropriate</i>	<i>Inappropriate</i>	<i>No Answer</i>
Specialized roles for research expertise	25	68	0	7
Working for large firms in teams	57	30	0	14
Specialization in traditional tasks	14	48	25	14
Responsibility for projects in small firms	50	34	5	11

sources that the respondents mentioned as reading (criticism, history, other), making things, getting to know the precedents, communication and contact with others, instructors and lectures, and motivation and intuition. In general, the most frequently mentioned sources were reading and learning about the precedents. In both architecture and landscape architecture, nearly half of the knowledge sources listed in the responses were in one of these two categories. Students' communication and contact with others and their motivation and intuition were mentioned less often than precedents and reading, and "instructors and lecturers" and "making things" were included even less frequently.

When asked about the related disciplines, most of the respondents mentioned arts, planning- and design-related disciplines, social sciences, environmental psychology, and environmental and natural sciences. Almost one third of the architects' responses to this question included planning- and design-related fields. This suggests that architecture is perceived to be linked to other design fields more than to other disciplines and thus is perceived to be more autonomous. Two thirds of the landscape architects mentioned fields related to the environment and natural science as frequently as design-related fields. Landscape architecture instructors thought fields such as landscape ecology and environmental restoration to be as valuable as the allied design disciplines. They view their profession as less autonomous than do architects, who rely on other design fields more than on nondesign disciplines.

THE TYPOLOGY AND DESIGNER PROFILES

A cluster analysis of the responses to the first two questions identified five distinguishable types of design instructors. The first four types gave design the master value but emphasized different additional skills: *master designers* who emphasized project criticism, *communicative designers* who emphasized communication, *political designers* who emphasized political skills, and *balancers* who saw all four skills as equally important. The fifth category included those who emphasized research skills above all else. Of the respondents, 33% were categorized as master designers, 10% as communicative designers, 15% as political designers, and 37% as balancers. Only 5% were researcher designers.

In the following sections, we summarize each designer type by describing the responses to the open-ended questions. Because the pilot survey yielded the same types, we also illustrate each type further by quoting typical statements from the personal interviews.

MASTER DESIGNERS

Of these 26 design instructors (11 from landscape architecture, 15 from architecture), 92% thought the “ability to develop strong design ideas and solutions” was more important than the rest of the skills. They not only give design a “master value” but also rank research skills lower than critiquing skills. Design instructors in this group were clearer in their terms and more elaborate in their definitions when they talked about critiquing; for example, one instructor commented on the significance of design criticism in developing one’s own worldview. They considered criticism not only as a way of improving projects but also as a way of understanding one’s self as a designer.

The skill rated the least important by this group was the ability to take an active role within a politically dynamic context. The traditional designer role of the architect or the landscape architect was emphasized. For instructors who emphasized the importance of reading for their students, getting to know the precedents firsthand was indispensable. One instructor who commented “no design is original, it’s sort of a reshaping of earlier ideas” was typical for this group. Another instructor mentioned courses outside architecture but expressed concern about their integration with design.

Both architects and landscape architects in this group saw the relationships between various design disciplines as positive. One landscape architecture instructor commented, “Architecture and art are the only ones that make any sense; landscape architects are not scientists.” Another instructor expressed his hope that allied planning and design disciplines would collaborate more so as to become more effective at the regional scale.

The most likely role these instructors predicted for their students was “working within multidisciplinary teams in larger firms.” Both working for large firms within teams and working in small firms with more responsibility, however, were seen as equally appropriate for future graduates. Interviewees mentioned both positive and negative aspects of working as a generalist. One landscape architecture instructor, for example, expressed his concern:

In some ways the variety of opportunities that landscape architects are able to respond to is one of the strengths, but it’s also a weakness. . . . People see us doing a lot of everything and yet they don’t know what we do.

In general, instructors in this group seemed to believe that although designers will most likely find themselves in large firms where responsibility is divided, the designer needs as much responsibility for projects as possible to protect his or her identity as a professional. They assumed that the designer would appropriate power in designerly ways: by producing stronger design

projects, doing skillful criticism, and by explaining design ideas and justifications in a convincing way to others.

COMMUNICATIVE DESIGNERS

The eight design instructors in this group (three architects, five landscape architects) rated research skills low and rated using the scientific research literature in general as even less important than conducting research for a specific project. These instructors saw strong design ideas and designerly criticism as important. "Explaining design ideas and justifications for clients and nondesigner professionals" was rated high.

After filling out the minisurvey, one instructor made a point of differentiating the explanation of design ideas from explanation of design products:

Out of this list I'd pick "ability to critique design projects and current developments" as more important. Because it allows you to develop your theory about what you think is important . . . appropriate or inappropriate for a particular location. "Explaining design ideas in a convincing way" would be important, for the same reason that we have to be able to communicate to other people. . . . I would call it ability to explain design in a convincing way, the physical thing that is there as opposed to the idea that might have generated it.

The communicative designers' ideas regarding the sources of knowledge and inspiration were similar to those of master designers. This group especially elaborated on "getting to know precedents." One of the instructors explained what is important for her in looking at the precedents:

I guess I'm a little biased away from the large, monumental, precedent-based architecture. I'm much more focused on trying to understand the everyday environment. The everyday environment that I design for is culturally made. People are actively engaged in making what it is and how they live. I'm interested in trying to teach the kind of architecture that talks about how people can support, arrange those kinds of activities, so that they feel appropriate to many people as opposed to worrying about the particular, functionality, or over the image. . . . I look at vernacular architecture; whatever is sitting out there, you should go out and document it.

Responding to a question about related disciplines, an architecture instructor pointed to the significance of social sciences:

I'd like to see architecture . . . move away from the whole technological side in the sense of trying to maximize efficiency. I'd like to see it linked back to the social sciences, anthropology, sociology.

The responses to the question about professional roles suggest that this group thought that the most likely role for future graduates was also the most desirable one: working for large firms within multidisciplinary teams. One instructor in this group commented on the variety of roles a professional can take after being educated in a design field:

Not all the students we have, particularly in the undergraduate school, are going to become professional architects. . . . There are a lot of other avenues now that are open to them to explore. . . . We've had lots of people go on, say, into computer programming. . . . We've had students go on in traditional professional careers, construction, programming and design. . . . They can go on to many other places [especially] in graduate school. I would hope that the kind of education we give would lead them into lots of other places [such as] political science, anthropology, business, rather than only learning about architecture.

Respondents in this group considered communication skills essential for the identity and effectiveness of designers in multidisciplinary teams and large offices. At the same time, they believed in traditional roles and skills, assigned design a master value, and saw small firm/more responsibility as appropriate choices for designers.

POLITICAL DESIGNERS

The 12 instructors who were in this group (4 from architecture, 8 from landscape architecture) interpreted design as a political process. In this approach, the designer takes on a politically active role involving both project-specific research and traditional design criticism. "Ability to explain design ideas convincingly to clients and others" was seen as an important skill, yet one instructor warned about emphasizing this skill at the expense of substantive issues.

[The ability to explain design ideas to clients and others] is extremely important. But . . . I don't want people to be so . . . glib and . . . convince people [about] utterly wrong [things]. That means that [ability to develop strong ideas and solutions comes first], and then being able to communicate and convince people.

Another instructor expressed doubts about the link between design disciplines and the arts:

Art has [been], is, and I think always will be an important link. Unfortunately it's the one that strikes me as being most susceptible to being utterly superficial in that we sort of borrow from it . . . in a kind of pastiche way.

Like the group that emphasized communication with clients, this group also saw "working within multidisciplinary teams" as the most likely and most desirable role for future graduates; nevertheless, they saw "being responsible for all aspects of projects in small firms" as almost equally appropriate, and they believed that communication and political skills are indispensable in filling not only new but also traditional roles designers may take. One interviewee commented that the kinds of tasks designers are expected to do in the future will not be so different from what they now do:

I see about the same percentage of students going into the public service or in the private world, working for land speculators, land development people, same percentage of people doing really innovative stuff. I don't know that I could say that there are great trends that are particularly different than before.

This group of respondents saw working for large firms within multidisciplinary teams as the most likely and most desirable role for future graduates; nevertheless, they did not think specialization was desirable:

I think that . . . in landscape architecture particularly, the broader you are, the better. And the broader you are with some specific thing that is a real specialty, you're really cool. . . . That's important for landscape architects to be able to do both.

Like the communicative designers, the political designers seem to believe that recent changes in the roles of designers have made certain skills especially important:

It's extremely important to work within the political context. All of the important projects, all of the important undertakings today are completely politically loaded for me. If there weren't some huge conflict about it, it would hardly be worth my wanting to do it.

Two other interviewees argued that mediation is not always better or politically more effective than advocacy:

In the political context, if everybody is agreeing with [something], it's probably not worth doing. If there aren't some people who are really jerks, and who are really fighting you, it's probably not worth doing. . . . The problem that I have with being a mediator is, it may be appropriate sometimes, [but] being an equal jerk for something you think is right may also be appropriate. In this case [for a new park in a neighborhood not wanted because neighbors don't want the Hispanics around], I don't want to mediate with these people who are trying

to stop a park because they don't want people who are different than them coming in. I want to beat their butts. And if they beat us, we'll come back another day.

Mediation is really important, I don't mean that it's not. But in most situations where there is such unequal power, mediation is not a very good solution. . . . I think the important thing is to be able to work within a political context *and* to be powerful. Designers generally aren't very powerful [in defending] a set of values. Usually, they're weak, they just do what they're told. Even the ones who are powerful are usually powerful for getting their "ego thing" completed. I think that the important thing is to have a strong set of values whether they are ecological or social, to then, engage in the political process, and mediate when it's appropriate, work with others when it's appropriate, build coalitions when it's appropriate, and then, fight like crazy when you think you're right, and to know when to fight, when not to.

ALL THREE TYPES OF SKILLS EMPHASIZED

This group viewed design, research, and political skills as almost equally important; the "ability to develop strong design ideas and solutions" was rated higher, with the "ability to explain design ideas and justifications in a convincing way to clients and others" in second place. Literature-oriented research skills were seen as the least important. Of the 29 instructors who were in this group, 11 were from architecture and 18 were from landscape architecture.

"Reading," "getting to know the precedents," "communication and contact with others," and "motivation and intuition" were all cited by this group as important sources of knowledge and inspiration. Specialized roles were not seen as likely for future graduates. This group believed that designers acquire their identity through a combination of design, research, communication, and political skills, and that professional effectiveness comes more from designerly ways and communication with clients than from knowing the scientific research literature.

RESEARCHER DESIGNERS

Only 4 of the 79 respondents were in this group (2 from architecture, 2 from landscape architecture). This is the only group that rated designing lower than research-related skills. Researcher designers gave communication with clients a high value and emphasized research results and data rather than designerly ideas and solutions. An interviewee's comment about "strong design ideas" gives an insight into reasons why this group did not give design a master value:

Ability to develop strong design ideas and solutions. . . . I think having ideas and having solutions are fine, whether they're strong or not, who says that? I mean how do you know that they are strong? . . . ability to work within a politically dynamic context means that you're bringing to it resolutions which other people find compelling. To me that would be a strong design solution.

In relation to the sources of knowledge and inspiration, researcher designers emphasized the values and individuality of students. An instructor in this group pointed to the significance of one's values and how these guide research interests:

I've a very strong social basis in my practice. I've always done housing, we do affordable housing for nonprofit, and that forms the value system and knowledge base for how I operate. Everything else becomes kind of a substrata of that. Others don't do that, others are very much into formalism. They consider it art first and foremost, and they may do housing also, and they may do very good housing, but that's not the basis from which they start. And I respect that, I'm very inclusive about what I think is appropriate.

One instructor in this group commented on the importance of students' individuality:

One likes to think that [as] the professors . . . we're going to profess, but I think in this field it would be unwise for us to try to ignore what the individual brings to the table. . . . We're not into reeducating. It's very important that everybody brings in their own individual sense of values to it. I think it's important for us to reveal to the student what those values are.

Another interviewee commented on the issue of borrowing from other disciplines:

We have this intellectual inferiority complex, that because we don't have a theory . . . like . . . in quantum physics, we're kind of adrift in the intellectual academic world. And we always go and seek other disciplines to give us guidance. For a long time it was management theory, for a while it would return to French literary criticism. . . . I don't know that that's appropriate. I feel we're a public art. We do things in the public arena where we have to abide by the rules, regulations . . . cultures that we build in, and that's where we should be seeking (for knowledge).

Researcher designers thought their students most likely to "work for large firms in multidisciplinary teams" and "be responsible for specialized tasks." One instructor in this group, comparing various professional roles, com-

mented that research and writing are essential skills; another commented on writing as a learning tool in design.

Although specializing for tasks such as graphics, CAD, or grading was viewed as likely for most graduates, it was seen as the least desirable among all the roles listed. Even though these instructors did not give design a master value and rated research and communication skills higher than the rest, they thought that working in small firms with responsibility for all aspects of projects was as appropriate for designers as more specialized, research-oriented roles.

CONCLUSION: THE CONSTRUCTION OF PROFESSIONAL IDENTITY IN DESIGN EDUCATION

In four of five instructor clusters, design was given the master value. Beyond this commonality, design professionals emphasized different skills, professional roles, sources of knowledge and inspiration, and related disciplines, depending on their approaches toward professional identity. For example, even though communicative designers and political designers assigned design a master value, they considered communicative and political skills almost equally important. For all groups, the most frequently mentioned sources of knowledge and inspiration were learning about the precedents. Although instructors acknowledged the relevance of a wide variety of sources, knowledge derived from precedents clearly has a special status in design.

All five groups believed that it is essential to the designer's professional identity to have as much responsibility as possible for whole projects, but they differed in the ways in which responsibility was defined and professional power was to be exercised. None of the groups saw research-oriented specialization as especially undesirable in any of the approaches, but neither did they see this as a position in which most graduates would be likely to find themselves. The most significant similarity between all the groups is that they all saw specialization in traditional tasks (such as graphic rendering, completing construction drawings, writing specifications, etc.) as the least desirable role. These results indicate that the idea of the designer as a generalist is influenced by ideas about power. If specialized, a designer was believed to be more powerful when his or her specialization was in research rather than in technical skills. Specialization was considered undesirable not because it was thought to be inappropriate for designers but because historically it has relegated designers to professionally less powerful roles.

Architecture and landscape architecture respondents shared similar convictions about skills, professional roles, and professional identity. This similarity may be in part an artifact of our research design. Had we surveyed landscape architecture departments on campuses where there is no architecture department, we might have found more differences. The results related to skills, designers' roles, sources of knowledge and inspiration, and allied disciplines suggest that the majority of the respondents give design master value. Giving design a master value, in fact, almost becomes the single philosophy of practice for the instructors surveyed, yet there is a variety within this philosophy in the ways the master value is constructed in relation to other skills.

DISCUSSION

We believe that to further the development of the design professions and the professional identity of designers, teachers must emphasize design, communication, and research skills equally. To become effective professionals, designers must understand the social context in which projects are designed and constructed and must think critically about society and the conditions in which the projects are realized. These skills need to be included more effectively either in required lecture courses or in sections of the design studio. In addition, the scope and definition of precedents should be expanded to include the vast bulk of the built environment, rather than being limited to a handful of architect-acclaimed buildings. Our recommendations are consistent with the findings and recommendations of the recent report on architectural education conducted by the Carnegie Foundation mentioned earlier in this article (Boyer & Mitgang, 1996).

Our research results show that the existing culture of design does offer the preconditions and a variety of opportunities to implement the above recommendations. One significant finding is that precedents are the primary source of knowledge for designers. Efforts to incorporate additional knowledge sources, such as social and environmental research findings, into the studio are more likely to succeed if such information is integrated with the discussion of precedents.

We also conclude that interpreting design as a master value and as negotiation is not necessarily incompatible. Giving design a master value and negotiating can be seen as complementary aspects of making sense in practical conversations in design. In fact, design can blend a master value and negotiation with reference to the specifics of a particular project. The impor-

tance that design instructors place on communication and negotiation skills indicates that they may favor an ongoing participation in the studio by instructors trained in other disciplines. We suggest that team teaching with nondesigners models the reconciliation of the master value with negotiation. Such collaboration in design teaching may in fact strengthen the knowledge power that designers have while maintaining their primary conviction that design is the master value. It also may provide a rich environment for students to learn the associated skills, as communication and negotiation become manifest in the interaction of instructors within the context of specific projects.

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