# INTERIOR DESIGN®

# Handbook of Professional Practice

**CINDY COLEMAN, EDITOR-IN-CHIEF**

**McGraw-Hill**

New York  Chicago  San Francisco  Lisbon  London
Madrid  Mexico City  Milan  New Delhi  San Juan
Seoul  Singapore  Sydney  Toronto

# 6

# The Culture of Design Education

LINDA KEANE
MARK KEANE

*Productions at the limit of literature, at the limit of music, at the limit of any discipline, often inform us about the state of that discipline, its paradoxes and its contradictions. Questioning limits is a means of determining the nature of the discipline.*

Bernard Tschumi,
Manhattan Transcripts

At present, interior design education may seem to be bifurcated: designers learn from established methods of design education in school, then learn from their actual practice. One aspect of education emphasizes theory, another practice, technique, and specialization. On a daily basis, it may be difficult to understand how education merges with practice and practice with education. To contemporary design professionals, that bifurcation may be seamless, and their work may change the way designers, and their clients, view interiors and habitation. The practice of interior design involves cultural production of spaces for habitation. Our very definition of habitation, the place where we spend most of our time, is being challenged by the pervasiveness of computers, expanded with global connectivity, and heightened in value by the sense that design is increasingly sophisticated, diversified, and sustainability oriented. Design education, as well, is redefining itself as a liberal arts-grounded, ideological, knowledge-based, innovative education. If design professionals share the trend in design education toward problem seeking (rather than problem solving) and a more fully theorized approach to habitation, they can better assess how their own practices will best mesh with an increasingly complex world, and can better rethink and refresh their approach to the work of design to meet that world's challenges. In looking at the education of the interior designer, it is essential to develop an approach to design education that embraces the changing understanding of both interiority and the practice, theory, and life-long learning of design.

## INTERIORITY: DESIGN AND THE ARCHITECTURE OF SPACE

Interiority, or the quality of interior space, is a concept of boundedness and openness, both physically and culturally. Physically, interiority is the product of boundaries; culturally, it implies the presence of the other, or the exterior, to create the conditions that render it inside. The presence of the exterior demands a relationship between that which is outside and that which is inside. On the one hand, design professionals work with interiority as a space created and conditioned by the exterior—by a building's walls, its shape, or its skin. In *Complexity and Contradiction,* Robert Venturi writes that "designing from the outside in, as well as the inside out, creates necessary tensions, which help make architecture. Since the inside is different from the outside, the wall—the point of change—becomes an architectural event."[1] On the other hand, designers work with interiority as a space that itself can condition a building's shape. For interiors, the wall is not only an event; it is the beginning of a double-sided boundary. Martin Heidegger writes, "A boundary is not that at which something stops, but as the Greeks recognized, the boundary is that from which something begins its presencing."[2] For many designers, the inside has been considered integral with the outside. Frank Lloyd Wright considered them to be integrated. "In Organic Architecture, then, it is quite impossible to consider the building as one thing, its furnishings another and its setting and environment still another. The Spirit in which these buildings are conceived sees all these together at work as one thing."[3] Just as an exterior can have an impact upon interiority, interiority can impact exteriority or exist independently. The emergence of interior architecture as a distinct field results in part from the twentieth-century phenomenon of build-outs and renovations, where the design of a building's skin and core is separated from the design of its habitable space. Linda Pollari and Richard Somol write that interior architecture tends to question the limits of space and relates "the vocabulary of the interior—'wallpaper,' 'carpets,' excessive 'material palettes' to inform diverse projects and practices."[4]

The relationship between the exterior and the interior, open to such diverse interpretation as design "from the inside out" or design from the "outside in" is changing the breadth of interior design education and the practice of interiors. Olivier Leblois, architect, furniture designer, and professor at L'Ecole

*In architecture, concepts can either precede or follow projects or buildings. In other words, a theoretical concept may be either applied to a project or derived from it.*

Bernard Tschumi,
Manhattan Transcripts

Speciale d'Architecture and Camondo in Paris, writes that the main point is that there is no "interior" architecture and no "exterior" architecture; (interior) architecture is a spirit and way of feeling, seeing, living; the question is not the difference between the exterior and the interior, but what resides in all the places that are in between. He cites Foucault, who said that one's identity is not in status, fact, and knowledge, but in prospect, traject, and perspect.[5] Others define interior architecture as the "holistic creation, development, and completion of space for human use or humanistically conceived space following Vitruvius's dicta—firmness, commodity, and delight."[6] Interior architecture is no longer limited in practice by medium or location (the interior), but is now characterized by a more multidisciplinary agenda. John Kurtich and Garret Eakin, in *Interior Architecture,* set forth a threefold definition of the practice of interior architecture: first, integrated finished interiors completed with a building; second, completion of space in an existing enclosure; and third, the preservation, renovation, or adaptive re-use of buildings with an interior focus.[7] This expanded description identifies emerging areas of expertise with requisite professionals. In practice, the arena between the inside and the outside is being shared by capable transdisciplinary architects and interior architects as its very boundaries become permeated.

Culturally, the "limits" of the interior are transforming in definition and in practice as well. The field of interior design is being redefined by the development of cyberspace, with a whole new type of space to be considered. As William J. Mitchell points out, "You can enter and exit virtual places like rooms." Through the computer, endless communities of virtual rooms can be entered, experienced, and moved through without the restraints of gravity. On-line, individuals and groups use virtual space and spatial metaphors such as "chat rooms" to inform and entertain themselves, even though they are removed from each other in proximity. Cyberspace takes shape depending upon how we use it: "Depending on the interactions that interest you—it's the pick-up bar, the seminar room, the mardi-gras, the shopping mall, the library, or the office." We can now access and interact on the trading floor, experience and contribute to the growth and decline of companies on screen, explore the virtual Guggenheim and visit cities long ago lost to the accumulation of civilization.[8]

Both the physical and the virtual bounds of interiority are expanding and opening, as is the understanding of what constitutes design and who is a designer.

## DESIGN AS A BASIS FOR LEARNING

Education of the interior designer

Education of the interior designer begins with the premise that, to design space where people live their lives, the designer must learn and reconceptualize the habitable—what people in a time and place accept as space they can live in—with ease, comfort, pleasure, and well-being. In dealing with the habitable, designers attempt to sustain the art of living. To meet these goals, designers must learn how to learn about the habitable, how to continually redesign their education, and how to expand their expertise.

*Design is a means of sustaining the arts of everyday living in a technological world.*

Bill Stumpf, *ACD Newsletter*

Learning the habitable is a process of gathering and processing all sorts of information about the ways in which people live, interact with each other and with the environment, and change the way they live. It depends not only on something that professors can quantify, scholars can recount historically, researchers can document, scientists can evaluate, and decorators can stylize; to learn the habitable, designers must constantly redefine livability. Inside is where we choose to spend most of our lives. Just as designers must see that the concept of interiority looks outward as well as inward, they must understand that learning the habitable is not simply an inward-looking endeavor. It takes living and studying how we live, where we live, what we want with living, and how our existence defines the world. As part of investigating and inventing the culture of habitability, the designer must exercise awareness, understanding, and acceptance of diversity. If designers are to learn about the habitable in a meaningful way, and thereby reconceive ideas of privacy, shared, and public place, they must understand changing lifestyles, mobility, aging populations, shifts in family constituency, personal, local, and global environmental strategies.

One of the essential requirements of educational endeavors is a commitment to teaching how to learn, and in the design field this commitment suggests that in the undergraduate years design students should be exposed to a broad educational experience inclusive of many design and design-related disciplines. Many design programs begin with a "year of discovery," an approach to awareness that establishes a deeper relationship with the environment, people, things, and space. In this initial year, design students explore the thinking integral to allied disciplines—architecture, landscape architecture, industrial design, product design, graphic design, and environmental design. Unfortunately, during the latter half of the twentieth century, segregation into "allied

fields" after that first year became the norm. Generations of architectural and interior design educators supported this artificial separation by omitting exposure to, understanding of, and collaboration with the other disciplines. By separating academic disciplines that share similar goals of improving human habitation, design educators have failed to fulfill their responsibility as educators. This separation of the disciplines has specialized and vocationalized activities that are by their very nature complex, comprehensive, and collaborative. The "year of discovery" in design education needs to continue throughout the educational experience, mixing disciplines and offering "real-world" exchanges and collaborations.

Undergraduate education needs to have a broad base if design students are to be fully prepared to specialize later in a particular field of knowledge and evaluate how best to design graduate education to meet their goals. The education of the interior designer is an education in sustaining the art of living. Currently, design institutions are facing the challenge of redefining just what constitutes an education in design. As the knowledge base increases and the field of practice expands, design institutions must critically evaluate both the breadth of undergraduate introduction to the field and the expectations of skill development and design experience needed. At the graduate level, design institutions offer theoretical and technological specializations as well as professional and creative coursework. Degrees in Consumer Research, Environment Branding, Edutainment, and the Creative Workplace are appearing and promoting new specialization in culturally developing areas. As the range of interiority is redefined, and its expanded practice recognized, the need for selective learning becomes a necessity as well as an issue. A design student's path may continue beyond the undergraduate introduction to include diverse foci at the graduate and postgraduate levels. Design students must choose carefully not only what to learn, but also from whom to learn it. As much as the reputation and pedagogical affiliation (decoration, design, or architecture) of an institution matter, so do the individuals who are teaching and who envision the future direction of the teaching of interiors. When design students and design institutions accept that there is value in learning from a range of teachers and practitioners, they begin to understand how to learn about a broad-based discipline.

At its best, design education constantly redesigns itself. Through critique and reevaluation of its methods and by imagining the designer of the future, design education is moving from a proscriptive approach to an inscriptive

practice. The proscriptive approach to design starts with the functional needs of others. Proscriptive solutions are problem-solving solutions. Inscriptive design methods are problem seeking, and pose questions and probabilities as both process and product. Galen Cranz writes in her book, *The Chair,* "As our ideas change, so do our chairs." Designers should necessarily refer to old ideas, history, and advocacy when they rethink the concept of comfort in ways that will allow them to overturn the artistic approach and allow them to reconceptualize the how, why, and where. The first proscriptive error is to accept an object's form and function as already established. Ms. Cranz calls for a new theoretical model acknowledging the reality that different parts of the body and the mind work together in complex ways. In keeping with an inscriptive approach, she suggests that body-conscious design should integrate critical principles of ergonomics, psycho-social entities of people, and the psychological experience of movement in space.[9] Working similarly within the inscriptive method, Katherine and Michael McCoy, past Directors of Design at Cranbrook and currently at the Illinois Institute of Technology's Institute of Design, teach and practice an *interpretive approach* to design as cultural production; in *interpretive design*, design professionals accept that meaning is partially a negotiation between the viewer/user and objects. They are aware that meaning is embedded in objects symbolically and linguistically, but also phenomenologically, ergonomically, and experientially. In *New Thinking in Design,* Michael McCoy describes how he takes *interpretive design* into practice in product design, furniture, and interiors. McCoy points out that he uses a lot of the same attitudes and methodologies in interiors projects as he uses on electronic projects. "In the case of an interior, one addresses how public space symbolizes or talks about the cultural condition that supported its making—or just how public space indicates its possibilities for use—the way of seeing and the methodology are the same."[10]

## DESIGN AS KNOWLEDGE

Design educators have struggled with the relationship between instruction and reflection, production and invention, vocation and critical practice. Design education, inherently linked to practice and industry, is about learning "trust" in a process of discovery, the endpoint of which is not initially known or even predictable. From Vitruvius' *The Ten Books on Architecture,*[11]

the oldest extant writing on architecture, we learn that architects need to be equipped with knowledge of many branches of study and varied kinds of learning, and that this knowledge is the child of practice and theory. For the designer of space, both practice and theory are necessary and interrelated components of a complete education.

In interior design education, "practice" is twofold. At the level of instruction, it involves developing technique and skills in a liberal arts setting that fosters thinking and understanding. The designer learns to understand all of the practical aspects of people's intimate connections to the habitable, through material things and behavioral research. Traditionally, interior decoration has dealt with the application of color, texture, and materials, and the knowledgeable and selective collection of furnishings and objects signifying ownership and occupation of space. We collect things. We surround ourselves with objects of necessity, of delight, of use and of memory. Peter Gomes, professor at Harvard University, writes, "I cannot remember a time when I was not interested in things and their arrangement."[12] We embed our homes and work places with things that contribute to the ease and pleasure of our existence and define who we are and sometimes even how we are. When designers question the limits of the inside and accept our natural impulse to fill our spaces with collections, they need to reconceptualize the very idea of habitation. For designers, the study of space is the study over time of human use and experience. With occupation of space comes habitation. With habitation comes complex interaction, associations, activities, and experience. We develop relationships with each other, with the world outside, all through the "designed" world of the artificial.

In an important way, however, in the design studio, practice becomes theoretical. To practice effectively, the design professional must question the parameters of habitation and of design practice, not only through factual research and expertise, but through challenging the philosophy of how we might work to reveal how we might live. The relationship between practice and theory in design is similar to the relationship between science and philosophy, experiment and understanding. In *The Story of Philosophy,* Will and Ariel Durant write of the difference between science and philosophy: "Science is analytical description, philosophy is synthetic interpretation. Science wishes to resolve the whole into parts, the organism into organs, the obscure into the known. It does not inquire into the values and ideal possibilities of things, nor their total and final significance. The philosopher is

*Theory, if not received at the door of an empirical discipline, comes in like a ghost and upsets the furniture.*

Erwin Panofsky

not content to describe the fact; he wishes to ascertain its relation to experience in general , and thereby get to its meaning and worth."[13] Knowledge comes of science, but wisdom comes with experience. In "The Science of Uncertainty: The Potential Contribution of Design to Knowledge," Clive Dilnot asks, What replaces scientific experiment and prediction? He states that the quick answer to the first part is that propositions replace experiment. The quick answer to the second part is that explanation replaces prediction. Propositions are to design what experiment is to science. What design offers is the capacity to create propositions about things ("this could be that"): if experiment deals with the rule ("if this, then that"), design deals with the possibility ("could this be?").[14]

In this sense of "what could be," practice and theory are essentially intertwined in the development of a knowledge base for the interior designer. As interior design defines itself as a discipline with its own educational standards and curricula, its own professional organizations, publications, and legal recognition, it needs to have as part of its base of knowledge its own philosophy, its own theory. As Stanley Abercrombie wrote in the 1970s, interior design "turns towards architectural writings where philosophical thinking about interiors has long been subsumed."[15] Today's convergence of theory and history as critical studies is essential to the cultural content of design thinking and making, and needs to be integrated within interior design studios. If interior design as a sustainable practice is to concern itself with the understanding of current conditions to propose new forms of practice, it must develop its own critical history, theory, and philosophy based on the nature and quality of human habitation.

Design professionals are beginning to understand the importance of a broad base of knowledge in the community as a whole. At a recent International Interior Design Association Research Summit, the importance of research to a humanistic practice of interior design was discussed. Schools contribute scientific data, gathering information on everything from "what makes a creative environment to the effects of lighting on worker performance." Susan S. Szenasy, editor of *Metropolis* magazine on art, architecture, and design, reports in "The View from La Jolla," on the many active areas of research in the field of interiors. Industry invests in market research, in manufacturing processes, and in how people use products, translating this information into cutting-edge development. Interior design offices keep records of projects, collating client needs, project types, material performance; this knowledge

base develops the firm's profile and forms a competitive edge. The interior design community, its schools, offices, and related industries generate a rich body of knowledge about human beings and the environment. This community must begin to share this knowledge and connect the activity in academia with the research of firms and manufacturers. This sharing must also address and reach out to the public to begin to build value in design.[16]

## LIFELONG LEARNING: A K–80 APPROACH TO LEARNING

*You and I are molded by the land, the trees, the sky and all that surrounds us, the streets, the houses. . . . Our hearts are shaped by the plaster walls that cover us and we reflect plaster wall ideals. . . . When I make a vase, a cup, or a saucer, they will be my expression and they will tell you who I am and what I am.*

Bernard Maybeck

The more complex the world becomes, and the more knowledge there is to master, the more a designer's broad-based education and knowledge will increase in value. If design professionals are to analyze and reconfigure the culture of living in the light of diverse lifestyles, new conceptions of work, entertainment, recreation, and communication, they must be aware of and keep abreast of changing perceptions, cultural shifts, use of sustainable materials, and the impact and potential of new technologies. In the light of such a complex task, developing the designer is a life-long educational process, a process that must be emphasized and supported more fully than it is now by the educational system.

If the field of architecture has expanded with respect to what its practitioners need to learn—some 22 years plus for architects, according to Harvard's Joseph Hudnut's list made in the 1940s—so too has the field of interiors expanded. Originally, design involved the practice of the decorator equipped with knowledge of history, styles, textiles, furnishings, and sources, and on the other hand the integrative architect (who included details of lighting, furnishings, form, structure, and environmental issues seamlessly). Now, the field has enlarged to include differentiated practices in the public realm—design of the workplace, commercial spaces, industrial applications, furniture, entertainment environments, and immersive virtual worlds. The expanding field of interiors puts more demands on academia and on the need for establishing a strong commitment to continuing education.

Internationally, interior design practice complements the practice of architecture in the preservation of interiors, renovation of spaces, or completion

*The more complex the world becomes, and the more knowledge there is to master, the more a designer's broad-based education and knowledge will increase in value.*

of new construction. In the United States, most interior programs begin with interior decoration; an exception is the program at The School of the Art Institute started by Ms. Marya Lilien, a Polish architect and the first woman apprentice to Frank Lloyd Wright. She taught "design from the inside out" prior to World War II. The interiors program at the Rhode Island School of Design was redirected in the late 1940s by Ernst Lichtbau, who desired a more rigorous approach to design. He also emphasized an architectural sensibility heavily influenced by his Austrian education under Otto Wagner and other Viennese designers of the Secession. Following World War II, more schools began offering programs in interior design. The Interior Design Educators Council states that there were 70 four-year degree programs in interiors at mid-century. In 1971, the Foundation for Interior Design Education and Research (FIDER) was formed by the Interior Design Educational Committee (IDEC) and other professional societies. FIDER proposed to establish and administer a voluntary plan for accreditation of interior design education programs. A formal exam, the National Council for Interior Design Qualifications, was created in 1974 by the design societies, including Industrial Design. In 1990, the Coordinators Network of the IDEC surveyed 75 of 213 baccalaureate-degree interior design programs in the United States and Canada. At that time, only a few architecture programs co-listed emphasis or degrees in Interiors. In the year 2000, FIDER listed 130 accredited programs in Interiors, and the *Peterson Guide to Architecture Schools of North America* showed almost one-third of the 130 accredited architecture programs offering degrees in Interior Design or Architecture.[17]
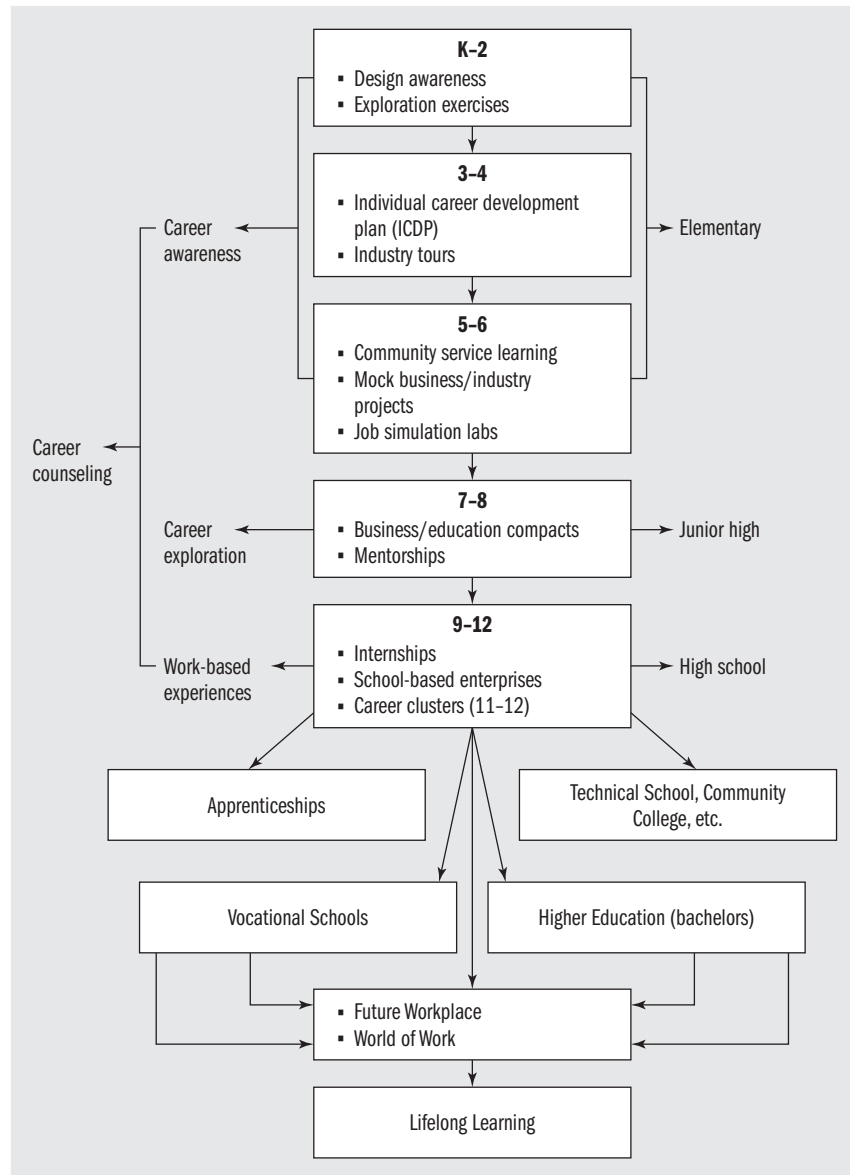
Unfortunately, design is not considered valuable and essential to education. The vocabulary and understanding of design thinking is not presented in the early educational system. Young designers thereby miss an invaluable introduction to this necessary interface with living and learning. Meredith Davis, board member of the American Center for Design, completed a two-year study with the National Endowment for the Arts to see how design was being used in K–12 classrooms. The study, "Design as a Catalyst for Learning," published in 1997, selected 169 teachers from 900 nominees purported to be using design in their classrooms. Of the 169 teachers who were selected on the basis of course outlines and project descriptions, fewer than 5 percent were art teachers. Most of their references were to the "elements and principles of design" (color, line, shape, etc.) rather than to the kind of complex

problem solving associated with the design professions. Almost none made the link to the cognitive and conceptual issues embedded in the design process.[18] The building blocks of questioning, creative thinking, insightful research, and problem seeking are not introduced as an essential part of elementary or secondary education. Elementary and secondary teachers are not considering either that there are relationships between how we live and what conditions we live in, or that these relationships are critical for how future generations might perceive, impact, and change our living.

In response to this educational problem, design professionals have begun the task of connecting both architecture and interior design to education in grades K–12. Although architectural organizations such as the American Institute of Architects have several programs nationally, and local chapters in Chicago and Philadelphia have done the same, the essential task must be served jointly from both disciplines. Since the early 1990s, interior design educators have indicated that involvement with the K–12 population is critical to the future of the field. Stephanie Clemons, ASID, IDEC, writes that interior design is a natural field to infuse into elementary education. She offers a comprehensive model with which to introduce interior design through career awareness, career exploration, and work-based experiences in progressive stages throughout elementary and secondary education. To raise teachers' awareness and understanding of the very nature of design, design professionals must intensively involve and reeducate art and design educators.

Design professionals and educators must send the message that interior design education, like other design education, is but an introduction to life-long learning. Two-year certificate programs offer the briefest of introduction to vocabulary and skills, more vocationally specific than culturally connected as "reflective designing"; four-year undergraduate programs combine liberal arts with design studio development, more effectively balancing why with how; emerging three-year master's programs graduate an older, more broadly educated student into the field. Most four-year interior design programs have the studio class at the core of the curriculum. In traditional models, liberal arts, social studies, and art, architecture, and design history and theory courses complement the work in the studio, as does instruction in color, materials, technology, and professional practice. In emerging interior architecture models, critical studies are embedded in the design studio experience as the basis for cultural production. At the end of the twentieth century the Interna-

FIGURE 6-1
Model for Interior Design Involvement in K-12. (Reprinted with permission from *Interiors & Sources*)



© Stephanie Clemons 2000.

tional Interior Design Association (IIDA) hosted a Large Firm Roundtable on Interior Design Education. The Foundation for Interior Design Education and Research (FIDER) concurrently began conducting surveys for revisions of its Standards. The National Council for Interior Design Qualification (NCIDQ) and other professional bodies, including the Boyer Report for Architecture Education and the National Council for Architectural Registration Board (NCARB) Survey for Professional Aptitude, began self-studies

reviewing the education of designers. Many of these surveys acknowledge the understanding that life-long learning is integral to design education. The effort to distinguish between that which needs to be introduced in an academic setting, understood and applied in school, acquired during internship, and testable and applicable during practice, is being questioned, along with definition of the limits of practice.

One way to send this message is to enhance and support continuing education. Continuing education offers opportunities for practitioners to infuse work with new thinking, changing technology, and new methodologies. The IIDA is implementing an initiative to look at the continuing education needs of the profession. Neil Frankel, past president of the IIDA, writes that currently continuing education offerings are random, nonsequential, and inconsistent in quality. Available material needs to be cataloged and enriched with both current expertise in the profession and emerging theoretical content. "The ultimate goal is to create a cogent, systematic educational road map that will lead design professionals to literacy and effectiveness at every point on the learning curve, providing momentum for a lifetime of learning."[19] In addressing a practice that is changing and redefining its range, continuing education becomes essential.

The consciousness-raising efforts outlined so far must not remain static, and must incorporate an understanding that interior design is challenged by new thinking about interiority. Although programs exist which continue to respect the skill of the decorator, emphasizing the world of the artificial, there are other forces at work on both the conception of interiority and design of space. Claudia Dona writes that "Many old distinctions, in short, will have to be abandoned and supplanted by new ways of thinking if we are to respond to the different design needs of the new human reality now emerging."[20] She accepts that this is the attitude of society, which for historical reasons has introduced the necessity of continuously redesigning itself. Karim Rasid, the Cairo-born Canadian industrial designer, says that "Today we are dealing with a society based on experience, so objects need to blur experience with form."[21] Mark Taylor, professor of religion at Williams College, says that "we are undergoing a reconfiguration of the very spatiality of experience."[22] As definition of interiority influences our living on the inside, interior design practice and educational needs of the interior designer expand. From the interiors of homes, to the office, to commercial and institutional

space, to riverfronts and streets of the cities, to the World Wide Web, the inside and outside of cultural existence and production are being physically and virtually connected. Divisions between architecture and interiors, objects, space, and our habitation with and in them are sharing meaning and contributing to understanding.

## INTERIOR DESIGN EDUCATION TODAY

As designers study not only interior decoration but also interiority, different pedagogical models have developed. When the International Interior Design Association (IIDA), the International Interior Design Association Foundation (IIDAF), and E-Lab (now Sapient) collaborated on a study of education, practice, and the industry, they found two distinct models in education: "simulation" and "safe-haven." Schools that offer "simulation" replicate the office environment and its proceedings. The "safe-haven" model pursues interior design through ideation and invention. Simulation and safe-haven models differ in context of projects, interpretation (evaluation) of the design process, and the nature of collaboration between students and faculty, and they expose students to very different educational experiences.[23] These models are presented within three disciplinary orientations to design education: interior decoration, interior design, and interior architecture.

According to the IIDA/E-Lab Report, "The main goal of a simulation school is to cultivate an environment where students learn sets of skills that can transfer directly to the workplace."[24] Real clients, real programs, real time and budget constraints form the proscriptive approach to interior design education. Boundaries are explicit, and a linear design process is emphasized. The shortcoming of the "simulation" model is that it involves more instruction in the practice of interiors and less ideation and invention in the culture of habitation; collaborative experiences are not modeled, and a theoretical basis for student work is often lacking. The majority of interior programs offer the simulation model and have practitioners as instructors. Graduates become entry-level designers and technicians.

*Interior design is a broad-spectrum discipline that thrives in the vitality of energy, intellectual engagement, mutual respect, conflict, and collaboration that flow from contact with other environmental specializations.*

The "safe haven" model cultivates a creative, idea-based environment. Inscriptive practice or the rethinking and situation-seeking approach is emphasized. More full-time design educators teach in this model, which fosters creativity and individual voice. Students are challenged and expected to achieve senior designer and high-level critical positions in emerging practices. The industry standard of auto-cad is often omitted or supplemented with exposure to digital modeling, animation, and interactive information architecture. "Safe-haven" model schools are marked by graduating students who lack definitive competency and marketable skills. The IIDA/E-Lab Report concludes that a combined approach offering both "safe haven" and "simulation" experiences best prepares the student for high-level entry into the profession.[25]

The range of instruction, inquiry, implementation, and invention is ongoing in the continual definition of interior design education. Programs are located in various settings—Schools of Architecture, Art and Design, Human Ecology, or Human Economics. In the "design education" mode of instruction exist programs which emphasize Interior Decoration. These curriculums stress historical styles, history and placement of furniture, color, textiles, window treatments, lighting, materials, and selection of complementary objects. Students graduating from decorative programs tend to work in private practice, residential interiors, commercial product, store-home consulting, furniture and material showrooms, antiques, object appraisal, and commissioned art positions. Schools emphasizing inquiry are based in material, environmental, and cultural design research programs. Implementation as a "design education" model exposes students to principles of residential interior decoration and space planning but also promotes specialized training in commercial space planning, contract design, project management, facilities management, and potential specializations in lighting, acoustics, museum curatorial work, or exhibition design. The professionalism of this type of program stresses functional design planning principles equally with aesthetics and performance standards of materials and furnishings. "Invention as Design Education" promotes the emergence of interior architecture, a field practiced and recognized in Europe. This model develops critical thinking and strategic interpretive research skills along different trajectories than either architectural education or design education. Human scale and use are the basis for research and design as culturally connected practice. Studios balance creative exploration of ideas with practical skill development and competency. Study trips, internships, and digital immersion in delineation, modeling, and communication

broaden the experience of this educational model. Interior design education ranges in approach from instructional to vocational to educational.

An IDEC study offers a basic interiors curriculum with recommendations for course content in Creative Work, Technical Work, Communication Skills, Professional Procedures, and Academic Studies–Liberal Arts. These recommendations were adapted as the basis for FIDER's standards. The E-Lab/IIDA Report speaks to the present move of both firms and practice toward architecture. In the most positive sense of this direction, theory and research methodology are becoming embedded in the aesthetic and functional expectations of interior designers, resulting in a valued design-as-knowledge form of practice. This move toward architecture currently offers a range of approaches. The E-Lab/IIDA Report concludes that there are currently three types of programs—one in which architecture subsumes interior design, one in which there is an institutional and ideological link with architecture, and, lastly, the program in which the differences between the two are emphasized and in which no true linkage exists. These studies currently accept and encourage diversity and differing emphases within interior design education under the flexible framework of 60–80 percent creative and professional work and 20–40 percent liberal studies. From instruction to invention models, the import of liberal arts in the design education curriculum increases.

Interior design is a broad-spectrum discipline that thrives in the vitality of energy, intellectual engagement, mutual respect, conflict, and collaboration that flow from contact with other environmental specializations. Interior design education needs to strengthen its programs and raise the overall quality of the diverse offerings while emphasizing its expertise in human-scale research and interaction. While celebrating interior decoration, design, and architecture, it needs to balance real-world skills with basic creative education of the designer. Practitioners bring current ideas from the office and industry into the studio, but more full-time academic teachers are needed to contribute to a theoretical and philosophical basis for interior design.

Design education is flexible, vital, and poised to redefine itself in a positive way. Cecil Stewart, past president of the AIA and an educator for over 25 years, says that America is leading the world in design education. He reports that design education is more fluid to change and more connected to the emerging practice and reality of industry. Scott Ageloff of the New York Insti-

tute of Interior Design stresses education over vocation. In a school that still respects the importance of the residential market, a broad-based education emphasizing life-long learning—speaking, writing, and thinking—serves a profession that evolves and changes. Sally Levine of the Boston Architectural Center supports a diverse number of entries into the field of interior design. As the profession works toward achieving title and practice acts, she hopes that it will not limit access to the field. Brian Kernaghah of the Rhode Island School of Design writes that, clearly, interior design education is undergoing a period of redefinition. The Royal College of Art in London acknowledges in its catalogue the rapidly changing role of design and emphasizes a multi-disciplinary experience encouraging confident, fluid attitudes and ability to work creatively with other fields. "Quality and courage are pitched equally against issues of probability and possibility." Creative resourcefulness on the part of the designer is identified with inscriptive practice. Architecture studios share space with landscape, interiors, graphic design, object and furniture design, real-world affiliates. Michael Vanderbyl, dean of the School of Design at the California College of Arts and Crafts, expects that students make connections—between culture and design, between themselves and the world.[26]

## INTERIOR DESIGN PRACTICE

The IIDA/E-Lab Report concludes that "the identity of interior design was not clearly defined," internally or by the public. This is understandable in light of the differing interior design education models—interior decoration, interior design, and interior architecture. The report concludes, "Clients' perception of the skills and scope of interior designers differs drastically from the vision interior design has for itself. Most clients still believe that interior design is about surface decoration."[27] The report defines four types of interior design practice. The cooperative model features architecture firms that have both design and technical teams who work collaboratively on larger corporate projects. The separated model consists of firms that deal in the tenant improvement realm; architects oversee project manage-

ment, while interior designers contribute color, materials, and treatments. The third model is the interior design firm, which features the "designer as decorator." This work is mostly residential. The fourth firm type is architectural. In this model, architects work as "master builders" and integrate both external and internal space conception, detailing, and completion. In the cooperative and separated models, junior designers from both architecture and interior design programs serve almost identical roles; there is an accepted collaboration and respect for knowledge and area of expertise. In the decorative and architectural models, the report suggests that interior designers and architects fulfill distinct but limiting roles. Respecting decoration and design as necessary but distinct areas of practice, both the profession and the academicians must clarify interior design's contributions. As Pollari and Somol put it, "If one axis of interior architecture agenda is to emphasize section over plan (unlike space planning), another is to orchestrate relations between bodies, space, and events in a dispersed field, rather than promote the selection and placement of objects (. . . as in decoration)."[28]

The profession needs to address this confusion and serve as an educational advocate to the public. To replace client confusion with understanding, the profession must first accept its expanding range of expertise and related educational models. By focusing on "human scale" and human issues in cultural production of environments, the practice of interior design will continue to serve the public creatively as well as responsibly, with a wide range of expertise. From the physical to the virtual, the practice of creating space has a range of expected expertise and application based on human scale and interaction. Strategically, interior design philosophy and principles need to enter more fully into public education, beginning with career awareness in K–12 classes. Public participation by students, teachers, and practitioners in urban projects and diverse community-based projects will begin the process of establishing a working relationship among the schools, the industry, and the populations that they serve.
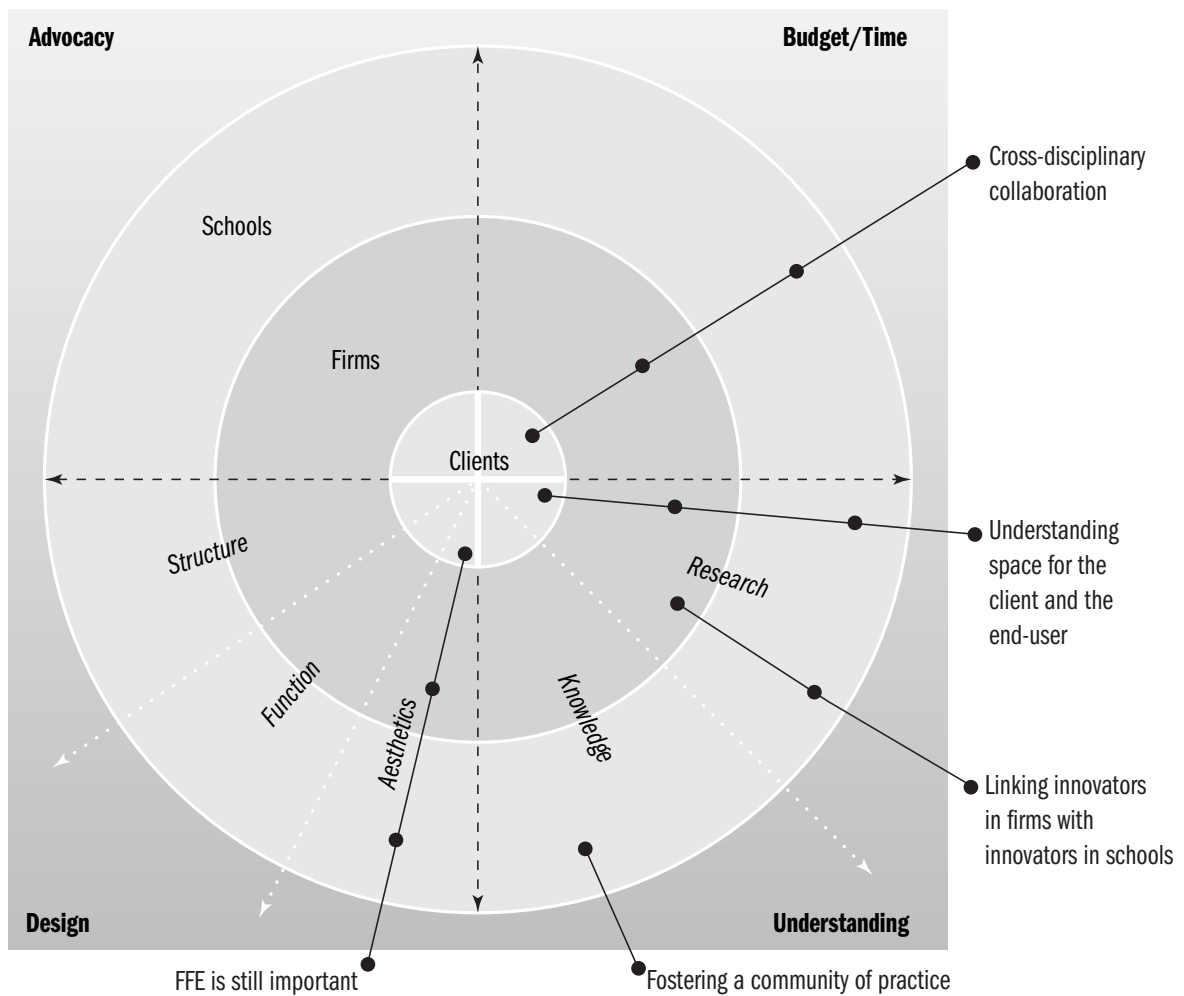
**Advocacy**

**Budget/Time**

Schools

Firms

Clients

Cross-disciplinary collaboration

Understanding space for the client and the end-user

Structure

Research

Function

Aesthetics

Knowledge

Linking innovators in firms with innovators in schools

**Design**

**Understanding**

FFE is still important

Fostering a community of practice

**FIGURE 6-2
Client Needs Model.
(Courtesy of the
IIDA Foundation)**

More direct links to the client will help interior designers establish ownership of the "Understanding" component in this Client Needs Model.

## HOW THE STUDENT HAS EVOLVED

As programs in interior design have evolved, students in interior design have evolved as well. Traditionally, students were trained in color, textiles, materials, furnishing, historic styles, selection, and placement. In most projects, these students resurfaced and reimagined spaces based on individual client

needs and room-by-room definition. As the speculative office place emerged, students began more and more to reconceptualize the workplace as their predominant space-planning exercise. They evaluated material performance and workstations as kits of interchangeable parts. This exercise developed into corporate contract design. Design students learned about product information from manufacturers, and they studied the history of furniture and styles. As the lighting industry matured and our habitation evolved into a "24/7" existence, the study of general lighting expanded in complexity and specificity to include task lighting, accent lighting, and mood-enhancing lighting. Lighting specialists emerged. As the science of acoustics became more sophisticated, acoustical specialists emerged. As the realm of interior design grew from residential to include commercial and institutional, students found that a subjective response to the individual client became complicated, and that they needed to respond objectively to a more general, anonymous public. Collection of objects for social status began to give way to reimagining broader cultural meanings. "Theming" of interior space (and architecture) became more emotive and experiential. Students found it possible to take a cross-disciplinary approach to branding environments when the rise of marketing eclipsed personal taste in corporate culture. Students are increasingly computer literate, and this literacy is affecting definitions of and behaviors in both physical and virtual space. Many students are "nontraditional"—the average age of entry is often older than 25, and for many, the interior design degree is a second degree. Most students continue to be career oriented, desirous of employment in a design field and committed to making a contribution to the quality of life.

While the student comes to his or her educational experience often older, computer literate, and desirous of design, it does not seem that the student comes more sophisticated nor mature in the realm of design. Students still need awareness raising, instruction in research methodology, and studio experience to transform information into innovation. Students initially seem to need hands-on instruction before gaining the independent resourcefulness necessary to the designer. Even with life experience, students need introduction to the vocabulary of design in order to express their ideas and to collaborate with others. While students need to be opened to new ways of thinking, they also seem to continue to need confidence to address the complexities of most situations.

## WHAT STUDENTS EXPECT FROM EDUCATION

Design programs are on point to be state of the art conceptually and technologically. Students want to be up to date with the information they are learning. They also want to be challenged to be innovative. Most of them expect technological training as well as creative work. One students says, "I want to have practical skills when I graduate, but more than that, I want my school to value experimentation, new methods of working and new design ideas."[29] Students seek a demanding arena in which to question, learn, produce work, and discuss ideas.

Many students are looking for a broad exposure to allied design disciplines—industrial design, graphic design, furniture design, fashion design, and architecture, as well as an education in interiors. "As the benefits of a well-designed environment become increasingly apparent, a need for a strong practical and abstract training will surface. I think there will be a move away from strongly 'segmented' professions and many design-related fields will start to overlap. The designer will become increasingly accountable for his/her design decisions—and thus form a new emphasis on social and environmental factors."[30]

Student evaluations commonly review the promptness, professionalism, and depth of knowledge presented by instructors. Students also speak to the inspirational and motivational nature of the teaching. They find encouragement, constructive criticism, and confidence testing to be pedagogical challenges. They also expect that the critique and feedback process will deliver a truthful measure of strengths and weaknesses in the maturation of the designer. Students require that teachers be both educators and practitioners. They thrive on conversations in and out of the classroom. For students, teachers also serve as mentors, and provide portfolio review, recommendations, advise on placement, and in some cases, career counseling.

Students also want to have a clear understanding of the position of the program. They expect an interior design program focusing on residential design to provide grounding in the necessary areas to render them knowledgeable to begin practice. Students in interior design programs expect cooperative experience during their school years to balance the practical with the creative.

*Design programs are on point to be state of the art conceptually and technologically. Students want to be up to date with the information they are learning. They also want to be challenged to be innovative.*

Students in interior architecture programs expect a broadening relationship with architectural education while they maintain intimate relationships with user-centered design, lighting, details, furnishings, and materials.

## WHAT STUDENTS EXPECT FROM THE PROFESSION

Students have high expectations

Students have high expectations from the profession. For those who truly appreciate the opportunity to work with people, to reimagine new uses and new concepts for habitation, design is a lifestyle. It includes life-long learning from the academies, from the offices, from industry, and from society. Students champion the understanding that good design is integral to our future and undertake jobs in which they can make a difference. "As a professional, I expect to work in a field which is increasingly open to experimentation and which invites the designer to take part in creating real environments, not just shells. I expect color and delight to become more important to interior design. I expect good design to be seen as an important factor in a happy life."[31] Some students continue their education to specialize in their respective fields, interior decoration or interior design. Some continue to focus on furniture, industrial design, lighting, and architecture, taking training in the office. Many continue their education in related fields, combining their educational experience into an innovative marketable network of design abilities. Some choose not to become expert in any one area, but to broaden their understandings so as to work in an expanded arena.

## WHAT PARENTS EXPECT

Balancing the intensity

Balancing the intensity of the actual educational experience—the demands of creative thinking and invention, which stress many students—with the reality of the demands placed on the graduate, design education still carries the reputation of salaried art for parents of degree-seeking students. High school art and design teachers report that parents first and foremost want students to

get quality job placement from a college education. With expectations of job placement comes job security, and with job security comes reflection on satisfaction and the lifestyle the job will afford. Interior design education must allow students to develop skill and competency that can lead directly to marketability. Parents must be convinced that interior design is not a luxury, but a valued service. Even without an introduction to design in the K–12 years, students' parents expect that design programs will lead to jobs. Interior design programs which require "co-op" experience, some as much as six months, assure parents of their child's future employability. Other programs offer the option of working for credit and experience before entering the work world after graduation. Working and gaining practical experience during school tremendously matures studio skills, assists students in discerning their direction after graduation, and advances their schoolwork so that they can build a better portfolio. Travel programs, an integral component of most architecture programs, are important for interior architecture students as well; as the market expands into the global workplace, parents and students need to understand diversity as integral to the "multiverse" view of the world. More interior design programs are developing study trips to other countries or allying with architecture travel programs; exposure to different cultures broadens designers' understanding and sensibilities about global diversity. Experience with diverse ethnic and cultural communities broadens students' experience with differing rituals, traditions, and points of view. Universal design principles are informed by regional design issues. Parents are often unaware of the full range of possibilities afforded by a degree in interiors. Career options need to be strongly communicated in academic promotional literature, and strong connections need to be established with alumni.

## WHAT THE PROFESSION EXPECTS

The IIDA/E-Lab study found that the public had distinct needs but only a "limited perspective" of how an interior designer could answer to the furnishing, finishes, and equipment (FFE) needs of a project, and no real perspective on how the design professional could address the overall scope of a project. The public believes that business aspects of projects—scheduling,

time, budget, and trades coordination—belong to architects or construction managers. The public's shallow perception of the skills, abilities, and arena of expertise of the interior designer is not consonant with new definitions of interiority. Design professionals must help the public understand design through education and events, not only through the work of individuals and firms. Collaboration among educational institutions, the profession, and the industry is needed. The business service provided by interiors professionals is of value. If aesthetic improvements alone are deemed a subjective luxury, designers need to implement more critical activities in the business aspects of their practice. Collaborative design methods such as the inscriptive practices, user programming, interactive design, community involvement, and ethnographic research are all methods which embed shared and reconceived knowledge into reconceptualization of activities and answered physicality. The study reports that when interior designers address client needs directly, they will address the problem of limiting perceptions. It follows that interior design needs to be a sustainable practice, one that provides services that are understood as integrally embedded and necessary to the quality of life. A sustainable practice implies a "green practice," but also a deeper relevance and involvement with user needs and human-scale involvement in the built environment. The practice of interior design can answer to these needs.

The public has the perception that firms are emerging that combine programming, design, and user-centered research in the global marketplace. These firms build valued service by continually conducting multiclient research, which results in leading-edge thinking that directly serves design. It also keeps clients informed and challenged. Such firms practice in a broad range of traditional disciplines: graphic design, furniture, interiors, smart building design, and urban design. Such a firm is DEGW International, located in eight different countries. DEGW emphasizes user research parallel with design practice. Frank Duffy, chairman of DEGW, says, "We try to understand why people want things and what they want and what the trends are." Investigations lead to ideation and ideation leads to invention. "Our strength, our reputation, our ideas come from these research projects."[32] DEGW hosts in-house training sessions to connect research ideas with practice, as well as regular multiclient roundtables. This type of firm is sought as a programming interface between clients and other project collaborators by contributing user-centered research as a strength. Such practices seek designers whose experience is cross-disciplinary and who are equipped to bring

individual talents and skills to a collaborative team. Interior design education needs to capitalize on its intimate relationship with clients and their needs to define user-centered research as one of the strengths of the discipline.

Doblin Group, a firm that practices "strategic design planning," assists clients in understanding change and utilizes such understandings to transform industries through directed use and application of design knowledge. They believe that designers have "the vision and the values needed to invent holistic, integrated concepts for the future, fixing many parts of everyday life." The firm gives designers the tools needed to be coequal to financiers, marketers, organizational design experts, researchers, engineers, and manufacturing experts. Utilizing innovative user-centered research, the firm surveys human activity and use with commonplace technologies. Disposable cameras, videotapes, and digital tape recordings are analyzed in depth before design concepts are initiated. "The truth is, no designer or engineer, in my judgment, can reinvent something unless and until it's broken down to the point where their common sense, logic, intuition, spirit, and brilliance can wrap around it adequately."[33]

## WHAT ARE THE FUTURE IMPLICATIONS FOR DESIGN EDUCATION?

In a critique of design education, John Chris Jones, professor of design at the British Open University, writes that the available design skills are still inadequate to the scale of difficulties that the new technologies are bringing to them. Interior design education will be impacted by a blurring between the traditional allied disciplines of architecture, industrial design, and furniture design. In transitioning from proscriptive to inscriptive approaches, it will graduate designers less and less as technicians than as creative leaders critically and competently able to reconceptualize how we create, renovate, and habitate space. It will accept and design for change. At the same time there must be continued respect for the skills and abilities of all contributors. According to Duffy, "not everyone has all the skills—no one of us has all the

abilities."[34] It is important in understanding change to acknowledge that no one discipline will have all the answers.

A recent survey of interior design educators, practitioners, and firms by FIDER published in *Interiors & Sources* (March 1999) identified the need to develop the traits and values of good interior design practice: attributes such as creative and analytical thinking, ability to focus on user needs, ethical practice, global understanding, and appreciation of diversity were sited; embrace technological use as a design, communication, and presentation tool; increase awareness of protection of the client and consumer through understanding and application of codes and regulations. These goals speak to the desire to acknowledge the cultural contribution of the interior designer. This is in keeping with the IIDA/E-Lab Report, which calls for the development of a distinct identity for interior design—an identity that as a practice provides a "human-centered" sensibility to the design of the built environment. This human interaction and emphasis should be the catalyst that unites the various schools, the public, and the industry. From the point of human interaction comes this more expanded definition of interior architecture.

For interior design education, the problem with design suggests that designers and design educators need to redesign the problems they face; they need to accept breakdowns in disciplinary barriers, and collaborate. Interior design education will expand its arena of knowledge and expertise to include the branding of environments based on human need and activity, sustainable practices, user-centered research, interactive information architecture, smart spaces, immersive environments, and design knowledge as value design. Eva Maddox and Associates works with clients holistically reconceptualizing attitude and appearance, redefining image, marketing, and interiors based on the company's history and projected future. The work of Diller and Scofidio employs video surveillance as interaction between users of space both interior and exterior. The Virtual Guggenheim and the New York Stock Exchange "interiors" by Lise Ann Couture and Hani Rashid of Asymptote bring information about stock movement graphically alive and engage the viewer in an interactive on-line tour of galleries and works of art. "Smart spaces" proposed by Richard Rogers and others offer sensible interactions with space serving our comfort, security, and use through sensors and embedded technology. Knowledge of user behavior and interaction with

objects and space concepts of habitation are changing as we connect publicly from the privacy of our homes. Interior design education will provide an experience and exposure that prepares students for a future that is constantly changing and evolving. It is in knowing this that design education of interior design education becomes key. Design is always rethinking itself, reflecting on its parameters, questioning existing constraints with its contribution. Design must overcome outdated disciplinary divisions and demonstrate to students and the public the interdisciplinary complexity of the changing charge and organization of its practice. As practices evolve—architectural firms designing interiors, interior firms branding environments, and graduates from both emerging as cross-disciplinary practitioners—it is essential that the relationship between disciplines in academic programs overlap, the relationship between schools and industry open, and the relationship between practice and education become significantly more collaborative.

The development of interior design education as a value-based service will require that schools look for opportunities to expose students to varied experiences beyond the traditional role of furnishings, finishes, and equipment. Opening studios to communities, offering services to individuals and institutions who cannot afford design consultation, will change the misnomer that interior design is mere luxury. Collaborative projects with the public will contribute creative design thinking to the renovation, adaptation, or creation of spaces. Design Response, Inc., based in Campbell, California, offers the services of pro-bono interior designers to local community agencies. Collaborative teams of designers, architects, artists, craftpersons, and interns contribute design services to the local community. The organization, led by volunteer designer Helen Carreker, completed over 100 projects in the 1990s. Carreker says, "It is very gratifying to see these newly emerging designers finish their training, assume career positions in the field and continue to use their talents to give back to the community."[35] Design Build opportunities such as the University of Auburn's Rural Studio, led by MacArthur Foundation Awardee Samuel Mockbee, and the Jersey Devils' community projects, led by Steve Badanes, at the University of Washington, allow hands-on construction experience, introducing students to the logic, problems and physical realities of joining disparate materials in the creation of objects in the public sphere in collaborative community practice.

Interior design education will continue to emphasize consumer and user needs and to develop new methods of research that will structure ways of

studying and understanding activities in people's everyday lives, with a focus on learning what people actually do. Designers will amass information in reusable, easily organizable formats for collaborative networking and creative thinking. Interior design education will benefit by research and application of new materials, similar to George Beylerian's "Material Connexion," a digital research library, service, and data bank on green materials via the web. Interior design education will combine the science of research with the wisdom of human experience to contribute to the quality of life.

Interior design education must offer students an integrated approach and an integrative course of study. Design educators can expand design's area of experience, open its traditional boundaries, and allow for comprehensive study and practice if they approach design education more as a liberal arts education with integration of the history of ideas and study of life. This education offers designers the potential to network all of their thinking, research, and creative envisioning to influence our habitation. Interior design education is less about training the designer as technician, and more about developing the designer into a leader in imagining innovations and implementing them.

## Notes

1
Venturi, Robert, *Complexity and Contradiction*, Museum of Modern Art Papers on Architecture, New York, 1966, p. 86.
2
Heidegger, Martin, *Poetry, Language, Thought* (trans. Albert Hofstatder), Harper & Row, New York, 1975.
3
Wright, Frank Lloyd, Edgar Kaufmann, and Ben Raeburn, *Frank Lloyd Wright: Writings and Buildings*, Meridian Books, New York, 1960, p. 102.
4
Pollari, Linda and Richard Somol, "Complex Interiority," *LA Architect*, May–June, 2000, p. 14.
5
Leblois, Olivier, private communication.
6
Leblois, Olivier, private communication.
7
Kurtich, John, and Garret Eakin, *Interior Architecture*, Van Nostrand Reinhold, New York, 1993, p. 3.
8
Mitchell, William J., "Who Put the Space in Cyberspace?" in Peter Anders (ed.), *Envisioning Cyberspace*. McGraw-Hill, New York, 1999, p. xi.

9

Cranz, Galen, *The Chair, Rethinking Culture, Body, and Design*, W. W. Norton, New York, 1998, p. 15.

10

McCoy, Michael, "Interpretive Design," in C. Thomas Mitchell (ed.), *New Thinking in Design*, Van Nostrand Reinhold, New York, 1996.

11

Vitruvius, *Ten Books on Architecture*, Dover, New York, 1960, p. 5.

12

Gomes, Peter, "An Unruly Passion for Things," *NEST, A Quarterly of Interiors*, Summer 2000.

13

Durant, Will and Ariel Durant, *The Story of Philosophy*, Simon & Schuster, New York, 1953, p. 2.

14

Dilnot, Clive, "The Science of Uncertainty: The Potential Contribution of Design to Knowledge," presented at "Doctoral Education in Design," Ohio State University, Oct 8–11, 1998.

15

Abercrombie, Stanley, *A Philosophy of Interior Design*, Harper & Row, New York, 1990, p. x.

16

Szenasy, Susan, "The View from La Jolla," *Metropolis*, January 2000, p. 14.

17

*Peterson Guide to Architecture Schools*, ACSA, Washington, DC, 1998, p. 2.

18

Davis, Meredith, "Design as a Catalyst for Learning," Association for Supervision and Curriculum Development, Alexandria, VA, 1997 (via e-mail, August 31, 2000).

19

"IIDA Notes," *Interiors & Sources*, June 1999, p. 124.

20

Dona, Claudia, "Invisible Design," in John Thackera (ed.), *Design after Modernism*, Thames and Hudson, New York, 1988, p. 152.

21

*DaimlerChrysler Awards 2000*, DaimlerChrysler Corporation, 2000, p. 14.

22

*The Chronicle of Higher Education*, August 4, 2000, p. A16.

23

IDA/E-Lab Report, p. 48, http://www.ameritech.net/users/iidafdn/Education_Analysis.pdf

24

"IIDA Notes," *Interiors & Sources*, June 1999, p. 124.

25

IDA/E-Lab Report, pp. 27–28.

26

"CCAC School Catalogue," California College of Arts and Crafts, 2000.

27

IDA/E-Lab Report, p. 13.

28

Pollari and Somol, "Complex Interiority," p. 15.

29

Dow, Russell, student at the School of the Art Institute of Chicago, interview, July 10, 2000.

30

Pike, Lynda, student at the University of Pretoria, South Africa, interview, August 2000.

31
Bisagna, Elisabeth, student at the School of the Art Institute of Chicago, interview, June 2000.
32
Duffy, Frank, "The Choreography of Change," in C. Thomas Mitchell (ed.), *New Thinking in Design*, Van Nostrand Reinhold, New York, 1996, p. 28.
33
Duffy, Frank, "The Choreography of Change," p. 18.
34
Duffy, Frank, "The Choreography of Change," p. 18.
35
Carreker, Helen, *Interiors & Sources*, June/August 2000.