DESIGN REVIEW /

RECOMMENDATIONS

I. INTRODUCTION:

The initial sections of this study identify and analyze impediments to communication in juries, i.e., ineffective listening and feedback skills, incompetent leadership, ill-defined educational goals, racial and gender bias, defensiveness, aggression / coercion, boredom, opinion polarization, ineffective student preparation and presentation strategies, and inefficient jury formats. This chapter synthesizes the results of this study into three categories of recommendations: educating teachers, jury formats and configuration, and educational goals.

II. EDUCATING TEACHERS:

Design educators are exposed to and interact with their students in a prolonged and intense fashion. The subject matter discussed is often emotionally charged, as the student is often asked to reveal and articulate fundamental personal philosophy. Encouraging dialogue, motivation and trust with a student is crucial in the success of the studio. Juries, on the other hand, compress an enormous range of information and emotion into a thirty-minute ordeal, allowing very little time to develop trusting relationships. In such critical moments, it is important that jurors / educators possess a repertoire of well-established communication, leadership, and idea-building skills, as well as

knowledge of the effects of their personality and style upon others. Training in these skills should be part of any educator's graduate education or professional updating. We recommend that graduate schools in the design professions try devoting a small portion of their curricula to teacher training, which would be available to both active and prospective design educators and administrators, and include seminars and coursework in three areas: interpersonal communications, leadership, and studio instruction. The next section briefly describes these fields, and discusses their relevance to design educators and the jury:

Interpersonal Communication:

Coursework in communication could be grounded in mutually respectful approaches to communication in which emphasis is placed on the importance of listening, as well as the processing and presentation of feedback. Sensitive listening is nearly everything to effective communication, and it can itself communicate the following messages quite clearly: I am interested in you as a student / juror, and as a person, and what you feel is important to me; I respect your thoughts, and even when I disagree, I know that they are valid to you; I am certain that you have a contribution to make to these proceedings (the jury); I am not

trying to change you; I want to understand - you are worth listening to.[203]

Sensitive listening reduces threats to self-image and needs for defensive reaction. Jurors / teachers need to listen to understand the student. Only in the kind of non-threatening environment such behavior helps create, can the student safely explore, evaluate and incorporate new experiences into his or her self-concept. As defenses fall, the truth becomes increasingly apparent and opportunities for learning and sharing ideas can be recognized and accepted. If these messages have been sincerely communicated, and our natural tendencies to judge and evaluate have been appropriately disciplined and subdued, the entire atmosphere of the jury can alter dramatically. Our observations suggest that misbehavior in juries can be unconscious and habitual. Unfortunately, a potentially productive jury environment can be severely hampered by only one or two careless / thoughtless participants. The need for self-awareness and constructive feedback among our colleagues is therefore urgent.

Leadership:

Research in group behavior and management shows that effective leadership enhances productivity in task-oriented groups.[204] The

teaching and administrative experiences of the author combined with our protocol data suggest that this applies to design juries as well. Group facilitation training should be part of the education of design educators. `Leadership' is a very complex concept, not "categorizable" into a collection of personality traits.[205] Group leadership in a jury context is a complex relationship among the following variables: the personal characteristics, needs, attitudes and intentions of the leader, jury members and student participants; the characteristics of the affiliate organization or design school; and the social, economic, and political environment. When these factors change, leadership style and behavior should accommodate. Different situations require different leadership qualities, and these skills can certainly be learned or enhanced.[206]

Research suggests that leadership be viewed as a collective phenomenon, its efficacy depending upon participation from all members in a group.[207] We might surmise then that the more members of a jury that are aware of and sensitive to critical leadership issues, the smoother and more efficient the jury. Although there must be designated leadership, the leader's task would be less demanding and could be less authoritarian, as all participants would be more sensitive and responsive to group dynamics and practiced in facilitating

group process. This policy might also apply at school-wide scale. Leadership development programs could be designed for the administration, faculty, and prospective design educators in design schools, with the benefit eventually accruing to students, studios, and juries in the form of better teacher-student relations, and more productive learning environments. In view of the complexity of the concept and its influence on organizational effectiveness from both group and individual points of view, development programs would need to address leadership issues at both the school-wide and intra-jury scale.

School-wide Leadership: Consistently effective jury leadership probably requires careful attention to the leadership needs of the entire administration, faculty and student body. Flawed administrative leadership influences faculty behavior, the studio environment, and juries. Seminars might be devised which apply developments in management to administrative and faculty leadership needs in design education. Development programs should address the complexities of intra-organizational politics, and the individual's (students and faculty) struggle to understand and adapt his or her own personal needs and skills to the organizational intentions of the school. Two primary duties of

effective leaders are to first provide directive vision to the organization, and then develop the organizational means to achieve the vision. In other words, leaders chart the course to which others can affix their alignments; their visions help establish the school's organizational intentions and `personality'. This approach to leadership requires sensitivity to the subjective forces that operate at each level in the organization, and an ability to recruit each individual's alignment and orientation toward the organization's overall success. This leadership model assumes that colleagues with different orientations toward their work and the school realize what the others are attempting to contribute, and consider what accommodations they might make to assist one another.

In design education, leadership potential occurs on three levels. First, it occurs within a program's school-wide visions and organizational strategy as developed by the school's administration and faculty. Second, it occurs within the design laboratories in the form of studio-related goals and organizational schemes developed by the administration and the faculty. Lastly, it can develop in the students through their visions of the future and the organizational means to achieve them. Leadership needs and potentials at all levels merit close

attention.

We have observed schools which suffer from ineffective leadership in one or more of these ways. They may lack focus, common educational goals, or trusting relationships. Students and faculty feel alienated from their counterparts and the goals and organizational intentions of the school. Some schools employ management models which enable individual faculty to succeed while the school and students suffer. These models allow people to justify what they are doing while their operations run deficiently. Leaders in our schools, studios and juries should develop further the skill needed to identify and respect the subjective interests of their colleagues and the students, as well as skill at understanding how relevant university and educational systems function and affect all participants. Leaders should also learn to identify and empathize with those who have become alienated from the system, and to envision and implement a mutually productive fit between them and the organization. Many management training courses are directed toward similar goals, and should become a part of any design educator training effort.

Administrative leadership of one school in our survey appointed a committee to review their existing systems of teaching and evaluating

design. They found that their juries had been far too judgmental and critical. They abolished the term `jury' as implying too hostile an image, and totally revised their design review strategies. They hope to have installed a system that is more nurturing, and encourages creative, intellectual discourse. This school is exceptional in its awareness of review issues. We recommend that school leaders elsewhere initiate programs to regularly discuss fine-tuning their `design-review' system in relation to the studios.[208]

Leadership in Juries: Within the juries, effective leaders would be expected to help set style, content, and purpose, and also insure more productive outcomes through the promotion of constructive juror and student behavior. This is difficult, and requires diverting some attention from the content of the jury to its process. The leader might be thought of as providing a service to the participants by facilitating the jury process. Central responsibility would be to establish and maintain open and accepting jury environments conducive to creative thought and learning, mutual respect among participants, and a fair hearing to all ideas - an atmosphere that encourages free speculation together with a sense of discipline leading all participants to contribute to the development of ideas, the students', each other's, and their own. Our

study reveals serious gender and racial bias. Female student presentations are interrupted 1.25 times more frequently, and their juries average 12 percent less time than those of male students. Female jurors verbally participate in juries 29 percent less than do their male colleagues. Afro-American students are interrupted 2.5 times more frequently than average, and their verbal participation in their own juries is 20 percent less than average. Leaders should be aware of this prejudice, and encourage equitable participation.

Jury leaders should be aware that small groups / juries, especially cohesive ones, are often disposed toward `groupthink'. They should encourage expressing of divergent opinion, and afford it due consideration among all group members. Leaders should encourage jurors to provide well-rounded, comprehensive feedback, and not allow jurors to focus on too few issues. Feedback from the jury should include information on the design process, design decisions, and perceived learning demonstrated by the student. Juries should also consistently review basic checklists of contextual, functional, spatial, structural, building envelope, and socio-economic design issues. Leaders and jurors should beware of the natural tendency to seek mistakes and pounce on them. They should remember the powerful impact negative

remarks can have, and think of weaknesses as causes for concern, rather than debilities.

Effective jury leadership often requires sublimating personal desires, and avoiding use of position to promote self-interest. The leader should instead focus on the jury process and continually clarify juror and student remarks, and dispel ambiguity in the dialogue. Fewer than four (3.6) sincere, student-oriented questions (REAL) were asked per jury in all schools observed. Jurors have the responsibility to listen attentively to student presentations and to encourage students to explore different design philosophies and conceptual approaches to design. As the juror is usually quite familiar with the subject matter being discussed, he or she must exercise restraint and discipline to listen with understanding to the student's grasp of the topic, and not interrupt or lead the presentation. In one six-hour segment in our record, the jurors consistently interrupted the student presentations after an average of only two and one-half minutes. In another twenty-five-minute jury we recorded over sixty intra-jury interruptions, i.e. juror-to-student, juror-to-juror, student-to-juror. Jury leadership must encourage jurors to forego this almost instinctive urge to interrupt when an idea first occurs. These interruptions divert the jury and create animosity and rivalry for the floor.

Leadership training should include ways of controlling conflict, starting with developing sensitivity to when someone (student or juror) is being pressed too hard. Many times jurors will relent and allow the aggression to intimidate the student beyond his or her ability to effectively respond. In these situations, the leader can take overt action toward a member who treats another unfairly; make any act of unjust coercion have a price. On the other hand, faculty can develop overly protective attitudes toward their students. Jurors may interrupt normal criticisms and respond in the student's behalf. Such incidents occur for different reasons, but seem to pose the most serious problem when the student's critic is feeling personally threatened by the jury's condemnation. The critics may have suggested some process or design elements in the student's presentation that have come under criticism, and this public challenge to their beliefs and or authority causes them to feel defensive with a need to rebut the jury's comments.

All of these strategies for facilitating communication in juries could be introduced and practiced in group-centered leadership development programs.

Studio Instruction:

Juries are a principal educational and evaluative tool for studio classes, which form the core of most design curriculums. The strengths and weaknesses of studios are reflected in student performance in the juries. Learning how to design can be a bewildering experience. The enigmatic quality of the process often provokes intense debate concerning what constitute good design and good designing. The lack of accountability inherent in this dialogue allows many irresponsible comments to go unchecked or unclarified, and many design processes and products to go unexplained, confusing students, and making rational discussion difficult.

We recommend that seminars on studio instruction examine more explicit methods of teaching, discussing, and learning design by introducing studio teachers to the organizational and generative power of design ordering systems. These methods of conceiving a design through multiple perspectives provide insight into the origins of design concepts and form. Initially, students could be introduced to a number of basic functional, contextual, spatial, structural, building envelope, emotional, social / cultural, and environmental ordering systems.[209] Eventually students would be expected to personalize this information,

and develop a process tailored to their own values and methods of designing. To enhance their students' fluency and speed in concept-getting, teachers should expose their students to a variety of approaches and solutions to different design types and contextual situations. The analysis of past solutions for specific building types in specific situations, including the analysis of the work of `accomplished' designers, can promote greater depth of thought and meaning in students' design and planning concepts. As an integral part of this process, teachers can help their students develop exploratory, analytical, and evaluation skills by requesting them to keep design `dairies' in which they diagrammatically chronicle design decisions and design process in detail through the use of words, sketches, flow and bubble diagrams, proximity matrices, and critical path diagrams. As integral to this process, we recommend that students also be exposed to the evaluative and generative power of shape grammars at an early point in their academic careers.[210] Seminars on effective studio instruction should also stress that studio teachers emphasize the importance of verbally articulating and defending complex design ideas. They should be introduced to a number of techniques for rehearsing and developing these communication skills in their students.[211]

Fewer than 50 percent of the students surveyed felt that they had adequately prepared their verbal presentation and defense. Fewer than 50 percent outlined their presentations prior to the jury, and fewer than 10 percent practiced their presentation out loud. Studio instructors should emphasize the importance of developing clear, relevant and interesting presentation strategies through frequent pre-jury rehearsal in the studios. During one-on-one design critiques, students should frequently be asked to explain, discuss and defend their ideas.

Research Skills:

Chapters II and IX indicate how little research there has been in design education. We believe that this is largely due to the lack of exposure most design educators have to research methods and design. Our teaching methods remain little changed since the turn of the century, and are in need of review with an eye toward reform. The hybrid design of this study combines research methodologies and variables that may be of use in studies on other facets of design education. We recommend that graduate and professional development courses address this issue, and familiarize design educators with quantitative and qualitative research methods and design. Periodic seminars which discuss current research in the profession and related fields of study

could also stimulate faculty interest in, and respect for research.

III. JURY FORMATS & CONFIGURATION:

Research in spatial behavior, combined with our survey of design educators and administrators, revealed potentially useful variations on traditional jury formats. We suggest that design programs experiment with the following alternatives, and evaluate their usefulness in diverse learning and teaching contexts. Schools should remain flexible in implementing these different models since the particular needs of a given design exercise or studio situation may suggest the use of different jury formats.

Alternative Formats:

Itten's basic design studios in the Weimar Bauhaus used the students as jurors and the studio teacher as facilitator of the review process. The method has the potential to activate the usually idle and bored student audience. Evaluation of peer projects carries with it a large responsibility. Students are learning to evaluate others' work in a responsible and discerning manner, as well as developing methods of effectively presenting feedback to others. The method may also reduce students' presentation anxiety. Our survey revealed that many design educators

believe that in the early years of design school, the judgmental nature of juries may discourage exploration and deny students the chance to fail productively in their design search. In response to this attitude we recommend another variant of this method that may have advantages for basic design studios. This version postpones juries until the instructor is convinced that the students have reached a healthy state of autonomy.[212] Even then, their first juries should be informal. All of their class work could be hung anonymously together, and each student would then be asked to introduce and discuss the work of another student, and give their opinion of it in detail. During these discussions the teacher would act as facilitator. The exercise is intended to develop students' abilities to articulate complex and subjective ideas, evaluate and criticize, give feedback, and have them begin constructing their own ideologies. One respondent to our survey wrote that she was concerned with the prescriptive nature of most juries. She continued, "... as instructor I simply guide and encourage the discussion. I make a point of never determining `rightness' or `wrongness'. I am attempting to get students to `construct' their own ideologies about design.... We are preparing our students for a world which doesn't value beauty, architecture, or a healthy environment. Our students must possess a very solid understanding of their own work, rather than a fuzzy memory

of dictatorial dogma".[213]

We recommend that design programs experiment with de-emphasizing or omitting grades in the final juries. Final juries can be anxiety-producing and exhausting experiences that often place undue emphasis on graphic presentations. Our experience teaching design strongly suggests that most learning about design and designing occurs during the conceptual and developmental stages of an exercise, and we believe that effort in these phases provides higher returns than do desperation moves made during the last days of a project. Most central design decisions are made well before the final jury. The time between the last developmental jury and the finals is usually devoted to developing graphic presentations, which rarely determines a major portion of the grade. If the studios and preliminary juries develop students as versatile and fluent `concept-getters' and accomplished design developers, the final juries could become celebrations and symbolic closures to design exercises. Eye-catching graphics and detailed modeling would then become part of the celebration. We suggest that `due dates' be scheduled twenty-four hours in advance of the juries to reduce student exhaustion and anxiety. Another method of reducing presentation-anxiety and adding to a festive atmosphere in

final juries, is to have students present and defend one another's work in hopes that they will relax and begin to develop genuine empathy with alternative design methods and decision-making processes.

In response to faculty / juror complaints about the repetitious and time-consuming character of many juries, schools might experiment with pre-jury qualification processes. Students would have to demonstrate their readiness for design review so that the jurors' time would not be squandered on ill-prepared and underdeveloped efforts, or too many similar or unstimulating projects. A variation of this format presents and discusses pairs of projects in tandem. These might not always be the `best' projects, but ones chosen for their potential to encourage dialogue and learning. Post-jury summary reviews to clarify jurors' comments and direction can also be added to facilitate student learning.[214]

Our observations, interviews, and survey indicate that jurors are often unprepared for juries. We suggest that school's develop forms for soliciting jurors' written opinions of projects, and individual juries could use their own versions of these so that students can have written records of juror remarks. Student audiences should also participate in the review, and write their own comments on the projects and juries of their

fellow students. A program and brief description of the design exercise's educational intentions should be sent to all jurors (internal and external) one week before the jury. Jurors could also be issued `jury kits' prior to the jury containing such items as a model-scope, calculator, scales, a copy of the UBC, a polaroid camera, and a procedure manual, which includes the forms for their written comments and grade. Guest jurors could be given a short half-hour orientation to the `ground rules' and educational intentions of jury they are about to participate in. Alumni acting as guest jurors could help head off uninformed and/or unfair commentary from guest jurors who do not understand the `dominant reality' of the school nor the educational intentions of the program and design exercise. On the other hand, jurors with diverse backgrounds and expertise should also be invited to assure that juror feedback is broadly based, and opinion polarization is avoided.

Making jury mixes interesting and productive could be facilitated by assigning faculty and guest jurors to juries at the outset of each term. The assignments could be based on schedules, room availability, past jury assignments, histories of working together, experience with a particular building type, design philosophies, etc. Juries should be carefully scheduled so that students from each level can be encouraged

to participate in the reviews of the others. As described in Chapter V, less formal jury formats might encourage interested students to periodically pin their work up in the hall outside of their studio, so they could ask `roving jurors' for critiques, one on one. This format allows students to gather opinions from numerous sources between formal jury dates. The resulting informal and carnival-like atmosphere may diminish defensiveness, and generally create a more pliant environment for both delivering and receiving advisements.

Graphic Methods:

Itemized response (IR), a method of recording a group's evaluations that was developed by the Synectics group, to make group problem solving more creative, may apply to design juries in a slightly altered form.[215] Itemized responses systematically records the ideas, comments, and concerns of all group participants, through the leader's keeping a legible, structured, verbal and graphic record for the participants. The IR simply lists what the group sees as useful about any idea, along with the group's concerns about it. The two lists are arranged side by side on large flip-chart paper. The group then works on how to overcome the concerns, listing its suggestions on another sheet. The sheets are then torn off and pinned up for easy reference.

We recommend that design juries experiment with a modified version of the IR format. We suggest that before each student presentation, participants cover a wall with butcher paper on which to record the proceedings. On it, jurors could graphically comment and build upon one another's ideas and diagrams. These diagrams would help with the translation of words into design form, as happens between teacher and student in the studios, and this record could become the student's property for future reference, facilitating post-jury discussions with others, including his or her design teacher. During the jury, the student is often so nervous that comments pass her or him by. The IR provides a permanent account of what transpired, and the graphic format provides a less personally threatening source of feedback. The listing of concerns also provides a natural lead into a third phase of the IR process which is designed to develop ways for overcoming concerns. Its essence is building on and strengthening the student's (and other's) ideas. We believe this simple procedure could significantly enhance the productivity of juries.

Spatial Considerations and Jury Environments:

As mentioned, the layout of most juries places the jurors side by side in

a slightly concave configuration focused on, and approximately 4' - 10' from the student. Mounted on a wall behind the student presenter are his or her drawings. Any models, are laid at the feet of the jury on a small base, or leaned against the wall below the drawings. The audience normally sits informally behind the jurors, some 12' - 25' away from the drawings and the presenter. It cannot see the jurors' faces, nor much detail in the drawings or model. This remoteness may affect attention, especially when the presenter or juror is soft-spoken, the graphics are light, and / or the drawing scale small. We surmise that as the session wears on and the audience tires, all of these factors become more critical. Our video tapes show approximately 5 percent of the students in the audience with their eyes closed. Although they may be reposed in a thoughtful and introverted state, our post-jury interviews indicate that most (.92) were in fact in a semi-conscious state, for extended periods. This percentage is slightly higher during final juries. When juries are more intimate, and arranged in a circular, inclusive fashion around a table or stand, and student audiences are expected to participate, `nodding-off' decreases significantly. We have observed that student presenters and jurors will spend sixty-five percent and more of their time viewing and / or talking about the model(s). As models are usually arranged on stands or the floor, or are being passed among the jurors, the audience's view

of them is imperfect at best. A more intimate and inclusive configuration, or displaying models on vertical surfaces, may alleviate this problem.

Our survey revealed that several schools have developed spaces specifically designed for the jury function. The designs ranged from large central three-story spaces and amphitheaters to those that contain unique lighting, heliodons, audio and seating configurations for their juries. Some jury spaces are designed to have two or three thesis and final juries running simultaneously. We encourage schools to remain sensitive to the specific needs and dynamics of different classes, design exercises, and jury types, and provide a range of jury environments to fulfill these needs. Schools should make a conscious effort to create juries with different ambiences; some very informal and taking place in private homes where dinner is served; others quite formal with an exhibition-like flavor. The `total situation' can call for specific review environments.

We recommend that schools experiment with roundtable jury formats, where student presenter, jurors and audience stand around raised model stands amid relevant drawings hung on the walls. We have observed that this format often induces informal and vigorous

participation among participants, reduces speaker anxiety, and energizes the proceedings. Research in spatial behavior demonstrates that circular seating is better than side-by-side seating for interaction and communication.[216] Side-by-side seating arranged linearly can encourage the development of factions, and can isolate `lower' status from `higher' status individuals, e.g., deans and illustrious guests from lecturers, students from faculty, etc. Rarely did we observe members of the student audience break through the imaginary barrier of the jury seating line and sit among the jurors. We also noticed that guest jurors tend to sit together, while faculty jurors tend to sit with `allied' colleagues. Roundtable configurations appeared to break down these invisible barriers.

The `bi-fold' jury configuration discussed in Chapter V could respond to findings that seating patterns can influence emergent leadership.[217] In a face to face configuration the individual who is most likely to emerge as leader is the one who can be seen by the most group members. Since the seating configuration focuses jurors on the presenter and not on one another, the student can use this phenomenon to advantage during his or her presentation. The student can guide the presentation, focus on certain issues, control interruptions, provide impetus and energy to the

proceedings, and request the types of response she or he finds most useful. Once the student sits down with the jurors the leader becomes a fellow participant in the discussion. Our observations of School 3 show the student presenter often assuming the role of jury leader. Jurors would wait until the presentation was completed, raise their hands, and wait for acknowledgment from the student presenter before taking the floor. Students essentially controlled the proceedings, and intra-jury interruptions were extremely rare. This school has developed an exceptionally open and respectful jury environment, and we believe this has allowed them to attract large numbers of jurors (ten to fourteen) to both developmental and final juries, (please see Appendix I / Descriptive Statistics: Cross-type Comparisons).

IV. EDUCATIONAL GOALS:

Educational goals are fundamental to all educators and curricula. Without a cohesive and comprehensive definition of what `success' means in design education, all of the previous suggestions are merely cosmetic. The efficiency of task-oriented groups decreases when members do not perceive their goals uniformly. The author's experience, and our protocol study and national survey show that few design schools have formally addressed this issue. Each faculty member has his or her

own definition of the `accomplished' designer, student, jury, project, teacher, juror, etc. These definitions are often vague, unarticulated, unexamined, and often subject to radical transformation, depending upon the design situation, the personalities involved, and the academic environment. Our suggestion is not to develop a rigid national definition of the `successful' design student, but for design schools and teachers to open a dialogue on educational goals, considering present and future attributes demanded by the societal, professional and intellectual forces in design education.

A taxonomy of educational goals would focus on the changes which design educational experiences produce in individuals across cognitive, affective and psychomotor learning.[218] It would provide a framework for, objectify, and more precisely define a common `design education language'. Different design schools, faculty members, and external jurors could then better communicate, share, evaluate, and build upon one another's ideas. With such a framework at hand, the dynamics of juries could alter dramatically: communication could become more explicit, comments more focused, and evaluation more fair. The design critic, student, and jurors would become more accountable, and expectations of the student work and presentations clearer.

The taxonomy could develop in three phases. First, appropriate design educational outcomes would need to be specified. Second, these outcomes would need to be given clear and precise enough definitions to enable communication among teachers, administrators, curriculum designers, researchers, and practitioners. And third, a consensus would need to be secured among the user group(s), i.e., design educators, administrators, design students, and professional practitioners. This complex and logistically arduous task could be eased by using multi-attribute utility matrices (or some sort of bivariate statistical analysis).[219] The development of a multi-attribute utility matrix in itself would require design educators to collaborate in selecting educational outcomes, and the weights assigned to each. In fact, just developing the initial survey matrix would help resolve some of the issues. The matrices could then be circulated among design educators for their suggested amendments to the attributes cross-tabulated, and for their estimate of the relative importance of each attribute. The results could then be totaled and correlated centrally. Although imposing national, or even regional norms could lead undue influence from special interest groups, such a survey could be jointly sponsored by professional organizations, viz., AIA, ACSA, and ASLA. Before all this could happen, we would need to define

and discuss in depth what we are trying to do in design education, what society needs, and what the future holds for and demands of the profession. We would also need to discuss and evaluate how successful current design education philosophies and methods have been, a task that is difficult without clear educational goals. Perhaps some form of the registration board exams could be used as a beginning point for evaluating how successfully students have been educated. The results could provide us with at least a beginning point in the development of any classification of design educational goals.

Suggestions generated in this chapter for improving behavior in juries involve a few basic concepts; notions of acceptable behavior that we are all familiar with, and ones that most of us assume we practice daily: having and showing respect for others; the ability and disposition to listen to and understand the attitudes, feelings, and ideas of others; mastery of collaborative idea-building; the effective communication of complex ideas and recommendations; and sensitive / effective leadership skills. They are all simple tools, verging on the simplistic, but so easily neglected in `the heat of the moment'. As educators, we may hesitate to acknowledge that we are remiss in the application of any of

these attributes concerning our students and colleagues. There is a tendency to underestimate this material, in that listening and respect are assumed to be `just common sense'. It is difficult to perceive oneself as `disrespectful', or as consistently careless with the feelings and ideas of others, but our videotapes show how often we are so. The power of the concepts and skills discussed in this chapter to promote trusting relationships, enhance creative thought and behavior, and diminish counterproductive communications habits is considerable.

Our research reveals few solutions that are easy or quick. Irresponsible behavior often is habitual and virtually unconscious. It therefore requires time, patience, and devotion to correct.[220] We have made research-based suggestions for alleviating counterproductive behavior, and facilitating task-oriented performance in groups. Subsequent research will need to examine how well these recommendations translate into the needs of design education and design juries.