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Assessment Formats: Student Preferences and Perceptions

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Abstract (maximum 300 words):

This paper provides a student perspective on the variety of forms of design critique available to educators. In architecture and landscape architecture, the design jury remains the dominant format for providing feedback to students. In recent years this format has come under scrutiny and its effectiveness called into question. However, little research has been done into the variety of alternative or supplemental formats available to educators. This paper explores an array of techniques that the authors have employed in design studio courses (which include techniques suggested by students in Webster's 2007 article in the *Journal of Architectural Education*). These include written and verbal forms of feedback, peer and self evaluations, feedback provided during the design process and variations in the jury format. The benefits and limitations of each of the techniques are explored through presentation of the results of two web-based surveys of students.

The student surveys were conducted department-wide at the Mississippi State University Department of Landscape Architecture and the Hampton University Department of Architecture. The surveys consisted of a series of Likert-scaled and open ended questions focused on the students' perceptions of the educational and motivational value of each technique. Students were also asked to rank the various techniques in order of preference and explain why they found the techniques helpful or not.

Responses demonstrated a clear preference for one-on-one forms of evaluation. This result has raised a number of questions relative to students' preparation for professional practice and the role of educators in fostering student independence. This paper explores these issues as well as the benefits and limitations of each technique in an effort to assist educators in making informed use of the various assessment formats.

Introduction

While criticism is an essential part of every designer's education, a design critique can be a powerful and even emotional experience for many students. Although this feedback is intended to promote learning, it is sometimes distressing for beginning design students. They are often unprepared for criticism and easily misunderstand comments or even the purpose of the event. These early experiences are sometimes so powerful that they drive students away from the design professions before they have even had an opportunity to develop the skills or vocabulary necessary to succeed. For many others, bad critique experiences negatively influence their general attitude toward design criticism and therefore hinder their long-term development. Even among graduating students and practitioners, a healthy attitude toward design critique seems to be a rare trait, although there are probably few attributes more valuable in professional practice. The ability to speak and write coherently about design, as well as openness to client, peer and community input require training and practice. Educators can help to foster these skills by providing effective, encouraging and constructive feedback tailored to students' needs. This paper provides student perspective on a variety of critique formats, including written and verbal, peer and self-evaluations, feedback during the design process, and variations in the jury format.

Historically, design critique has come in the form of the design "jury" during which students present their work in front of an audience composed of professors, peers and invited professionals. The most significant investigation of this tradition, Kathryn Anthony's *Design Juries on Trial* provides an exhaustive exploration based upon surveys, interviews, student

diaries and behavioral observation.¹ Anthony's research outlines many of the limitations of design juries: students often find them discouraging, confusing, boring and educationally ineffective. In addition, Anthony identifies the disagreement that exists among students, faculty and practitioners about the purpose of the jury process and its role in educating designers. She suggests that the design jury tradition may bear some responsibility for "driving away many qualified women and people of color...". As possible solutions to these problems, Anthony proposes a series of improvements to traditional design juries, as well as an array of alternative approaches for design educators to consider.

Explorations that are more recent include architect Helena Webster's 2007 article "The Analytics of Power" which examines the roles of faculty, students and guest critics in the design jury.² Webster's yearlong ethnographic study found that juries are dominated by faculty and guest critic commentary, while students are typically uninvolved in the peer analysis. Webster identifies "passive compliance," "active compliance" and "active resistance" as the three primary ways that presenting students deal with critical commentary. She explains that regardless of tactic or ability, students focus primarily upon "gaining the best possible outcome" and not necessarily upon learning or becoming better designers. She concludes that design juries reinforce and objectify the "power differential between critic and student" and thereby distort learning outcomes. Alarmed by her findings, Webster proposes replacement of the design jury with "a new set of pedagogic events that are carefully constructed to support student learning." She lists a series of alternative approaches suggested by students, including peer reviews, exhibitions, special tutorial days and self-evaluation exercises.³

Additional studies have investigated the connection between graphic quality and success in design juries,⁴ explored the essential nature⁵ and substance of design critiques,⁶ and analyzed verbal forms of design evaluation.⁷ This paper builds upon prior research by evaluating a series of alternative or supplementary critique approaches, and comparing them to students' perceptions of the design jury. The purpose of this research is to assist design educators in making informed selections of evaluation techniques, and to foster a continuing dialogue regarding best practices for design studio instructors.

Methodology

The student surveys were conducted department-wide at Mississippi State University's Department of Landscape Architecture in the fall of 2007 and at Hampton University's

¹ Kathryn Anthony, *Design Juries on Trial: The Renaissance of the Design Studio* (New York: Van Nostrand Reinhold, 1991).

² Helena Webster, "The Analytics of Power: Re-presenting the Design Jury," *Journal of Architectural Education* 60, no. 3 (2007): 21-27.

³ This paper was largely inspired by the students' suggestions and is intended to further understanding of a variety of evaluation techniques by comparing them to students' perceptions of the design jury.

⁴ Meltem O. Gurel and Inca Basa, "The Status of Graphical Presentation in Interior/Architectural Design Education," *International Journal of Art and Design Education*, 23 no. 2 (2004): 192-206.

⁵ Jeffrey Karl Ochsner, "Behind the Mask: A Psychoanalytic Perspective on Interaction in the Design Studio," *Journal of Architectural Education*, 53 no. 4 (2000): 194-206.

⁶ Belkis Uluoglu and Taksim Taskisla, "Design Knowledge Communicated in Studio," *Design Studies*, 21 no. 1 (2000): 33-58.

⁷ See Deanna P. Dannels, "Performing Tribal Rituals: A Genre Analysis of 'Crits' in Design Studios," *Communication Education*, 54 no. 2 (2005): 136-160 and Janne Morton and David O'Brien, "Selling your Design: Oral Communication Pedagogy in Design Education," *Communication Education*, 54 no. 1 (2005): 6-19.

Department of Architecture in the fall of 2008. Surveys were administered online and consisted primarily of Likert-scaled statements aimed at determining students' perceptions of the educational value, fairness and motivational aspects of each technique. Students were given a definition (see *Figure 1*) of each type of feedback and asked to rank the techniques based upon perceived effectiveness and in order of preference. In addition, students were invited to justify their choices of most and least preferred techniques. The survey took students an average of fifteen minutes to complete. Fifty-three of one hundred and twenty seven enrolled landscape architecture students responded to the survey, while fifty-four of one hundred and ninety four enrolled architecture students responded. The two groups of respondents differed substantially in terms of field of study, ethnicity (*Figure 2*), and gender (*Figure 3*).

Figure 1: Definitions Provided to Students in the Survey

Evaluation Technique Definitions:
Gallery Review: <i>Review of a completed project in which the student's work is displayed and both professionals and faculty critique the work individually or in small groups.</i>
One-on-One Desk Critique: <i>Critique in the studio between the professor(s) and student during the design process.</i>
One-on-One Evaluation: <i>Critique of a completed project involving the student and the professor(s).</i>
Studio Pin-up: <i>Informal studio critiques in the design process typically involving the entire class or large groups within the class. These critiques could involve the professor(s), additional faculty, or invited guests.</i>
Traditional Design Jury: <i>Oral and graphic presentation of a completed project to a jury of qualified professionals, which could include professors, additional faculty, invited professionals or other guests as well as an audience consisting of the student's classmates.</i>
Verbal Peer Evaluation: <i>Verbal critiques of a project by one or more of the student's classmates.</i>
Written Evaluation by the Professor: <i>An in-depth, written critique of a project by the professor(s).</i>
Written Peer Evaluation: <i>Written critiques of a project by one or more of the student's classmates.</i>
Written Self Evaluation: <i>Written critique of the student's own project.</i>

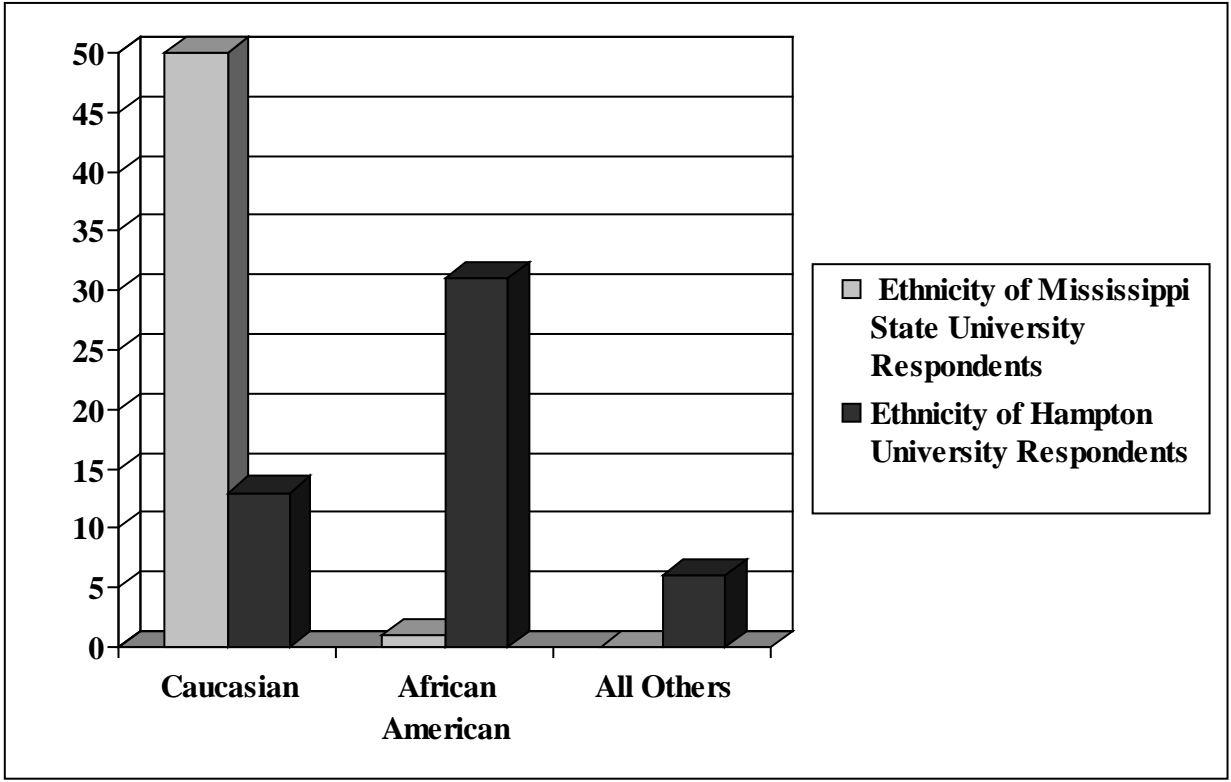


Figure 2: Ethnicity of Survey Respondents

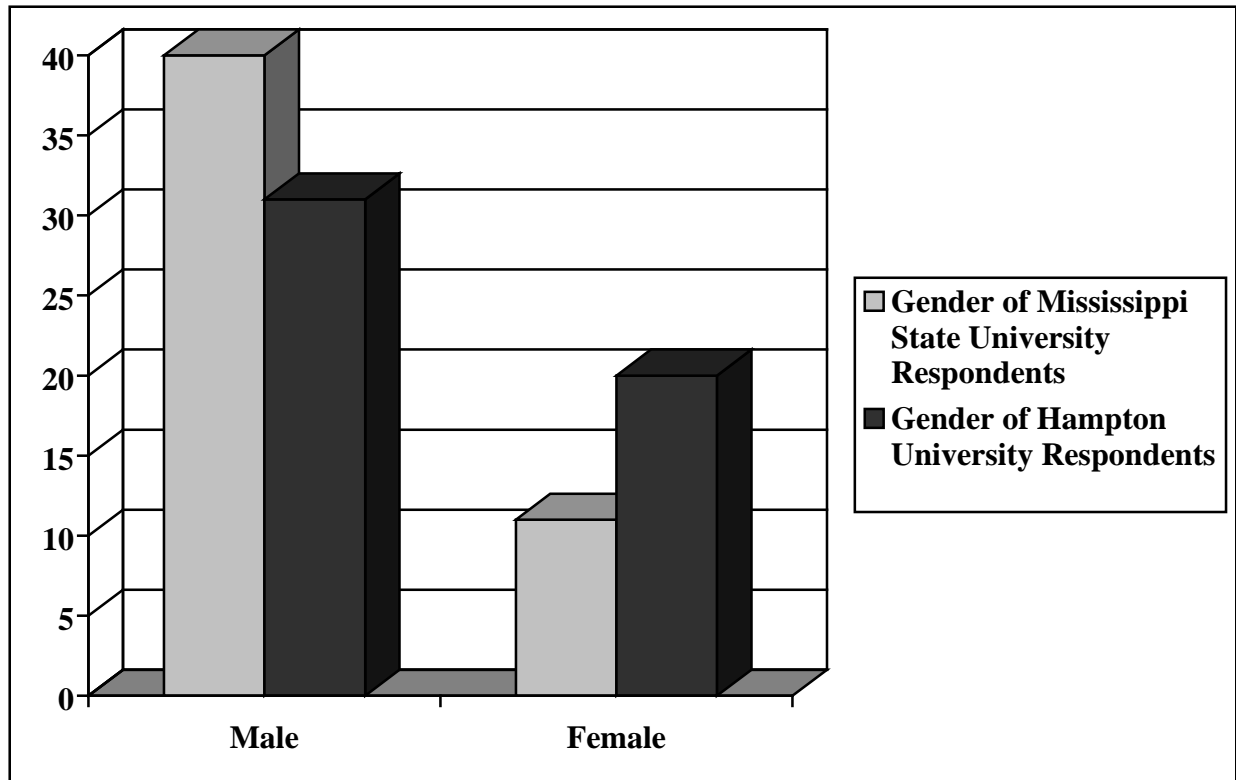


Figure 3: Gender of Survey Respondents

Findings

Survey responses of both groups were strikingly similar, the substantive difference being that “traditional design jury” and “written evaluation by the professor” scored somewhat lower in the Hampton University survey.⁸ Each of the two surveys was evaluated for significance using chi-square analysis. Each analysis was conducted using frequency counts of the number of respondents who marked a given item as the “most helpful” form of feedback. The overall chi-square was significant for each survey.⁹ This indicates that significant differences exist in preferences for various types of feedback among the students surveyed, and that observed differences were not due to chance. In addition, data from the two universities were combined and average scores calculated for the students’ perceptions of the effectiveness of each technique (see *Figure 4*). An in-depth discussion of the findings related to each of the varieties of critique appears below. Excerpts from the students’ written responses supplement this analysis. The comments provide insight into the students’ effectiveness rankings, although the reader should bear in mind that these comments are selected from the students’ explanations of their most and least favored formats and that minor grammatical and typographic errors in the quotations have been corrected to improve clarity. The techniques are discussed below in reverse order beginning with the lowest rated form of feedback.

⁸ During a discussion of the results of the survey, some Hampton University students mentioned that they thought that the traditional design jury scored lower in their department’s survey due to their greater familiarity with gallery reviews which they saw as a similar but more effective form of critique.

⁹ For the Mississippi State University survey, $\chi^2(7, N=39) = 36.28, p < .001$. For the Hampton University survey, $\chi^2(8, N=38) = 41.96, p < .001$.

Figure 4: Critique Formats in Order of Preference. Note: Students were asked to rank the effectiveness of each technique on a scale between 1 (most effective) and 9 (least effective)

	Critique Format:	Mississippi State University Rating	Hampton University Rating	Average Rating
1	One-on-One Desk Critique	2.1	2.0	2.0
2	One-on-One Evaluation	1.7	2.5	2.1
3	Studio Pin-up	3.3	2.6	2.9
4	Gallery Review	N/A	3.4	3.4
5	Written Evaluation by the Professor	2.5	4.5	3.5
6	Traditional Design Jury	3.2	5.3	4.3
7	Verbal Peer Evaluation	4.8	4.1	4.5
8	Written Self Evaluation	6.4	5.2	5.8
9	Written Peer Evaluation	6.0	6.3	6.2

Written Peer Evaluation

Written peer reviews ranked the lowest of all critique formats. Student comments regarding both forms of peer evaluation (written and verbal) frequently questioned the value of their classmates' criticism:

"I don't think some of them are in positions to give me advice."

"I feel like there is not enough 'care' from my classmates. I do not think that they would give any helpful information."

"...most of the time I got peers who didn't even care about their projects. If I got some good peers this method would be a great method to use."

In addition, a number of students mentioned that they thought peer reviews were overly complimentary, due to the evaluator not wanting to anger the classmate being reviewed:

"Peer evaluations tend to be handled with 'kid gloves' where a student doesn't want to create an enemy by openly expressing shortcomings."

". . . most students find it difficult to be critical about their peers' work."

It is clear from students' comments that many do not feel that their classmates provide adequate or completely candid critiques. However, this is not the only – or even primary – purpose of peer evaluations. Most faculty members who use peer reviews do so in an effort to build students' critique skills as well as to promote a studio culture that encourages inquiry and dialogue. The surveys suggest the value of explaining this rationale to students, as well as providing guidance in giving and receiving criticism in a constructive and thorough manner.

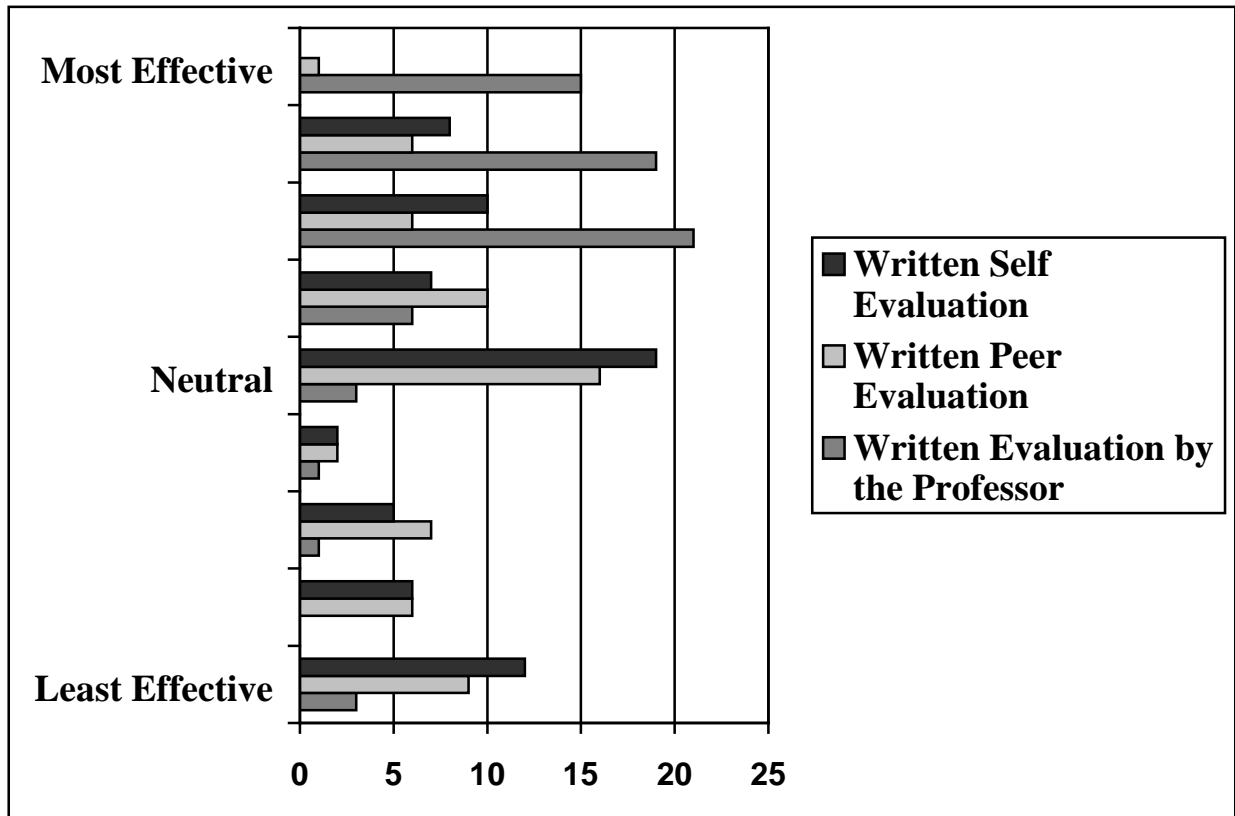


Figure 5: Frequency Analysis of Effectiveness Rating for All Listed Forms of Written Evaluation. Note: Students were asked to rate the effectiveness of the technique on a scale of 1 (Most Effective) to 9 (Least Effective).

The primary difference between written and verbal peer reviews is the privacy of the written evaluation. Most students are more willing to thoroughly analyze their classmates' work when the reviews aren't conducted in front of an audience. In addition, written evaluations can be anonymous,¹⁰ further encouraging frankness. Reviewing students can also be asked to rate the design using the project's grading scale, which often helps to reinforce the professor's evaluation. Although written peer evaluations have definite value, students did not generally rate the written forms of evaluation (see *Figure 5*) as highly as the verbal formats:

¹⁰ Some students and faculty stated their opposition to anonymous critiques during a discussion of the results of the survey due to their preference for open communication.

“I believe that peer evaluation is helpful verbally, however I do not find it as effective written, especially in a field like architecture where ideas are expressed graphically. It has been my experience that a lot of students . . . have difficulties finding a written voice.”

“. . . the person being evaluated may not understand what their peer is writing about without an open discussion.”

“I know its a way of getting us to critique others work in a thoughtful manner as well as teaching us to become better writers, but a lot of the critiques I received ... ended up not helping me much”

Written Self Evaluation

Self-evaluations ranked eighth out of nine techniques. The fact that students did not find this technique to be “effective” isn’t particularly surprising, since it requires them to be objective about a project that in most cases, they only recently finished toiling over. The students’ comments often mentioned the challenges of self-criticism:

“. . . it is difficult to remove oneself from the work in order to critique it objectively...”

“By the end of a project, I’ve looked at it for so many hours that it is difficult to critique/evaluate the design.”

“. . . it is hard for some to see their own mistakes.”

Nevertheless, there are potential benefits to self-evaluations, which provide the opportunity for students to communicate directly and privately with the faculty member. This can help some students to discuss more openly the weaknesses of their designs; self-evaluations also help the faculty member identify personal issues that might prevent a student from doing his or her best work. In addition, self-evaluations help the professor assess the overall progress of an individual or the entire class, and can be designed to elicit a wide variety of information. Self-evaluations can incorporate rankings, require drawings, or include detailed questions about topics that rarely arise in a design jury (see *Figure 6* for an example).

As much as some students may object to them, self-evaluations can also be tools for building critique skills and promoting introspection. A few of the students made note of these benefits:

“Evaluating yourself helps somewhat to figure out if you’re doing things right . . .”

“I do not really learn anything from self evaluations; however, I do confirm project shortcomings to myself. This confirmation does make me want to try to get things more completed on the next project.”

Educators should assume, however, that most students will not recognize the benefits of self-evaluations. Much like the written peer evaluations, it may be helpful to explain the purpose of the exercise so that students approach the task with the proper mindset and a realistic set of expectations. Providing well-written examples and allowing students a longer timeframe for reflection may also be helpful. The bottom line—made vividly clear by the student surveys—is that self-evaluations work best when combined with other techniques; otherwise most students will not feel that they are receiving the feedback they need.

<p>Landscape Architecture 3655 Name: _____ Landscape Architecture Design II Instructors: Jason B. Walker and Michael W. Seymour</p> <hr/> <p style="text-align: center;">Lexington Design Project – Self Evaluation</p> <hr/> <p>The purpose of this self evaluation is for you to reflect on your design and development as a designer. Please respond to the questions in a thorough and honest manner.</p> <p>1. What would you do differently (in terms of design) if you were to do this project over again?</p> <p>2. What is the most successful aspect of your <u>design</u>? And why?</p> <p>3. What is the least successful aspect of your <u>design</u>? And why?</p> <p>4. Which part of the design process did you most enjoy? Why?</p>	<p>5. What advice would you give to a designer who was going to design a similar project?</p> <p>6. What concerns you most about your continued development as a designer?</p> <p>7. What did you learn about concept during this project?</p> <p>8. Please rate your understanding of the following on a scale of 0 (No Understanding) to 10 (Expert)</p> <p>Site Inventory 0 1 2 3 4 5 6 7 8 9 10</p> <p>Site Analysis 0 1 2 3 4 5 6 7 8 9 10</p> <p>Concept 0 1 2 3 4 5 6 7 8 9 10</p> <p>Section Elevation Drawing 0 1 2 3 4 5 6 7 8 9 10</p>
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Figure 6: Written Self-evaluation Example

Verbal Peer Evaluation

The verbal form of peer evaluations received similar comments to the written peer format. In general, the students preferred verbal forms of feedback to written comments, and this probably accounts for the slightly higher ranking of the verbal peer evaluations. Students’ comments generally mirrored what they had to say about the written peer reviews:

“. . . quite frankly, students are afraid to be honest with one another.”

“Peers only say nice things.”

“A peer’s evaluation isn’t taken as seriously as a comment given by a professor . . . their comments may not always be correct.”

Judging from the comments, one of the most important issues for the faculty member to address when using either form of peer evaluation is the hesitancy of the critiquing students to provide frank criticism. This becomes more difficult with verbal evaluations, in which anonymity is difficult. Yet both forms of peer evaluation have the benefit of being active learning techniques for the student critiquing the work. Frequently during design juries, students will “tune out” and peer evaluations are one way to keep the students involved. Randomly assigning these critiques helps to keep the students attentive by taking advantage of their desire not to be embarrassed in front of their peers. For the student whose design is being reviewed, verbal peer evaluations may have a minor role to play, but their exclusive use will leave most students feeling that they haven’t received adequate feedback.

Traditional Design Jury

Design juries seem to be as controversial among students as they are with academics. While many students find them to be effective, a significant number of students find them to be highly unpleasant (see *Figure 7*).

“Jury is a very negative experience, and gives students lack of confidence in their abilities. This leads to lack of caring about class and a resentment towards professors.”

“. . . they tend to attack the presenter”

“. . . most of us fear this process.”

“. . . the jury is . . . ready to prosecute and find flaws.”

The benefit most often mentioned by students was the opportunity to receive diverse feedback from other faculty, students and professionals; although a few students mentioned that they didn’t believe that the visitors always understood the project or learning objectives. Surprisingly, not a single student mentioned the reason many faculties hold design juries: allowing students to practice verbal presentation skills and respond appropriately to an audience or client. The success of the design jury in building these skills, and how comparable the jury is to private practice, are topics of on-going debate. In either case, providing students with guidance on what to expect, how to present a design, and approaches to dealing with a hostile critique might go a long way toward resolving their complaints about this form of design review. Faculty also should not assume that all guest critics will be cognizant of the educational goals of the event and may also require some coaching. Providing jurors with information on learning objectives and project focus, prior to the event, can reduce confusion.

Despite our best efforts, there will likely always be a segment of students who feel highly uncomfortable in design juries. The students' rankings demonstrate that they don't believe it to be the most effective form of feedback. Although design juries still have their place, faculty should consciously avoid overuse of this format. It may help to consider students' complaints about this method. Some see it as "time wasting," and indicate that the critiques are primarily negative, rather than constructive. An underlying theme of the students' comments is that they very much dislike being embarrassed in front of classmates. For this reason, it may be best to withhold the strongest criticism for a more private form of communication.

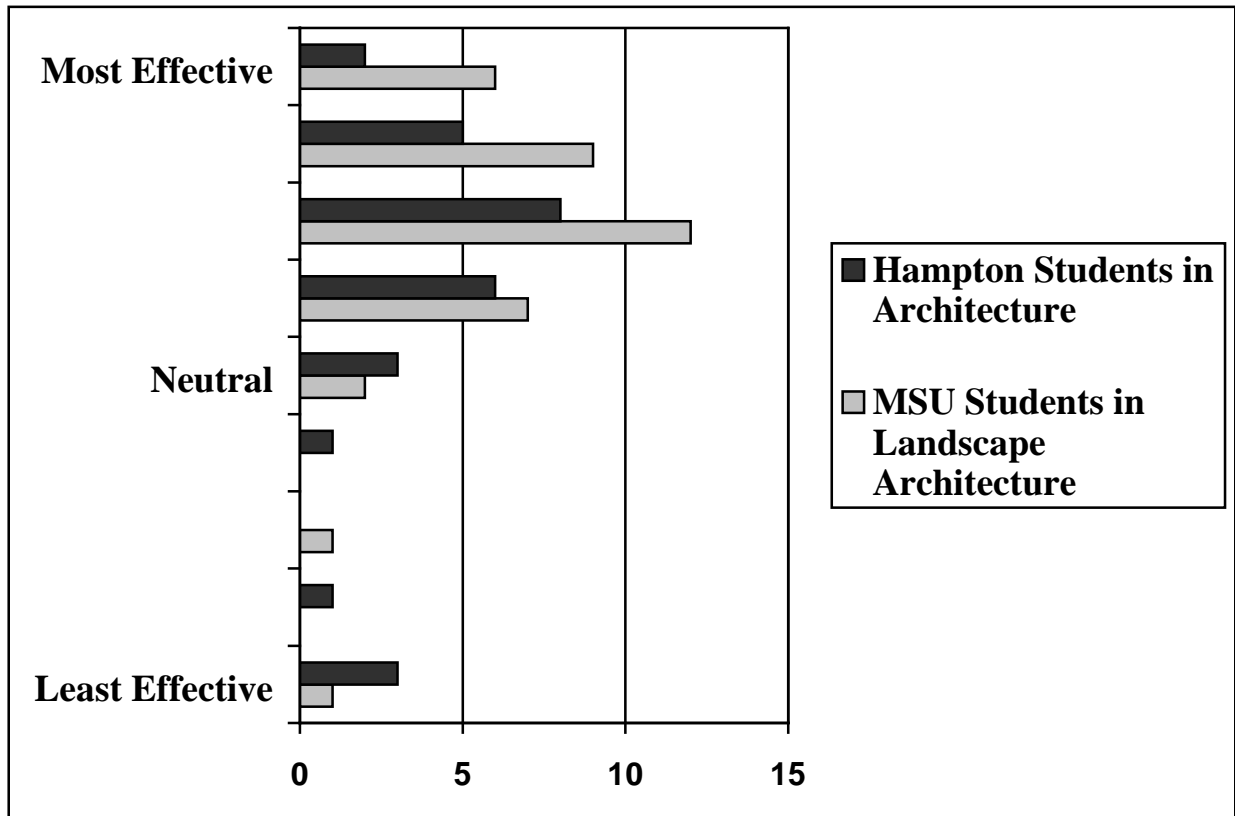


Figure 7: Frequency Analysis of Effectiveness Rating for Traditional Design Jury. Note: Students were asked to rate the effectiveness of the technique on a scale of 1 (Most Effective) to 9 (Least Effective).

Written Evaluation by the Professor

Written evaluation from the professor ranked fifth out of nine techniques, but was assessed above the mid-point on the effectiveness scale (3.5 on a 9 point scale where 1 was the highest possible score). Unexpectedly, the students' main complaint was that they found these reviews to be confusing or ambiguous:

“Written evaluations don’t really help to much because they could easily be misinterpreted . . .”

“I feel like these are a little vague sometimes . . .”

This seems surprising since clarity would seem to be the chief purpose for providing written feedback. Comments made in a jury may reflect gut reactions and may be worded imprecisely, but the written review allows for a more thoughtful appraisal of a design. Another common criticism was that written comments do not allow for dialogue, suggesting written critiques may need to be followed with some form of discussion that allows students to ask questions and receive clarifications. That written evaluations were not the highest ranked technique may come as welcome news to some faculty members, since it is also the most time consuming form of feedback. However, written critiques can be an appropriate place to present the most critical comments regarding a student’s work. A few individuals did list this technique as their most preferred feedback format, mentioning the detail and permanence of the written evaluation:

“The written feedback is beneficial to reference back to on future projects.”

Gallery Review

The gallery review format was included only in the Hampton University survey because this format is not currently used at Mississippi State University. The students ranked this technique fourth in effectiveness. Positive comments about the technique typically mentioned the diversity of opinion provided, and a few students even mentioned that they “enjoy” the gallery reviews:

“This will give the presenting individual a broad range of feedback to improve upon his or her design.”

“I enjoy gallery reviews. I always appreciate talking about my ideas with the professor and with other professionals who might be interested.”

“I feel that during a gallery review it becomes much easier, and more interesting to learn [from] your mistakes.”

These positive comments may be a result of the more informal setting as well as the semi-private nature of the gallery critiques. One of the clear benefits of the gallery review is the dialogue possible with professors, guest professionals, and students from various levels and majors. The opportunity to discuss design in a more informal, low-pressure setting appeals to many students, although a few mentioned issues related to this less structured approach:

“. . . people tend to drift towards stronger projects and weaker projects get less attention.”

“. . . people are rushing to see everything and may not even get to see or comment on your material.”

However, flexibility is also one of the key benefits of the gallery review format and likely one of the reasons that most students find the technique to be effective. Students typically present multiple times during the span of a gallery review and can participate in conversations about other projects located in the vicinity of their own (helping to keep them involved throughout the entire review). The gallery review can also be followed by general comments from guests, focused reviews of individual designs and/or formal presentation of projects selected by guest critics or faculty.

Studio Pin-up

The most significant differences between a traditional design jury and the studio pin-up are that the pin-up (a) takes place during the design process, (b) tends to be less formal and (c) often does not include guest critics. The main benefit of a studio pin-up, from the faculty member's point of view, is that it can help to avoid repeating the same or similar information at each student's desk critique. In addition, students can learn from seeing other student work and the critiques that others receive. Positive comments about this form of feedback were consistent and usually mentioned the variety of opinions provided, the opportunity to address the issues raised in subsequent solutions, and a general feeling that the criticism was more constructive:

“... studio pin-up is the most effective because it allows the student to get... feedback as they proceed through the project”

“This method of evaluation offers input from a number of perspectives in a more open and relaxed environment. Students are able to learn from other classmate's projects...as well as their own critique.”

“During a studio pin up, you get constructive criticism from both peers and professors.”

“A studio pin up involves everyone around you. This allows defense and critique to feel more natural. These are the people you see everyday . . . A pin up feels more like a family discussion or intervention and less like an interrogation with negative criticism.”

The criticisms of the studio pin-up included that the discussions were repetitive and therefore “boring” and that the pin-ups usually took too long. In addition, a few students mentioned that they simply preferred desk critiques for reviews during the design process:

“We . . . receive the exact same information from a studio pin up as we do from a desk critique, but . . . we are able to immediately act on those suggestions, rather than sit and watch twenty other individuals receive about the same advice.”

A comparison of the students' comments on the studio pin-up and traditional design jury is enlightening, since the two are nearly identical (except for the lack of guest critics or professionals at the traditional design jury). The criticisms of the two techniques were comparable (although more vociferously negative for the traditional design jury) but the positive

comments about the studio pin-ups usually mentioned the slightly less formal, less stressful atmosphere. This familiarity and the ability to revise the design following the pin-up seem to be key factors in putting students at ease and suggests some simple ways to make design juries more palatable. First, having the students and any guest critics become more familiar with one another prior to the jury may help to alleviate a significant amount of student apprehension. Second, devising a less structured format and a more informal setting for the jury may also help make students more comfortable. Finally, allowing design changes after the jury, or even allowing the students to make a post-jury response to the comments (stating what they would change as a result), might be of some benefit. These post-jury design activities might help to cast the design jury as a phase in the process rather than the final word on the student's project or overall progress as a designer. These minor changes to traditional design juries might go a long way toward making students more relaxed and therefore more receptive to critique, as well as improve their overall perception of the event.

One-on-one Evaluation

The two forms of feedback that involve solely the professor and student rated the highest in both surveys. It is clear that students find this type of interaction valuable and that they prefer it to any other form. While one-on-one desk critiques are common, post-project evaluations of this kind are more unusual but are ranked as very effective by students. One significant difference between the two is that the desk critique is usually not as private as the post-project evaluation. This privacy allows both the faculty member and student to express openly their opinions and concerns, a benefit that many students noted in their comments. Additional remarks about this type of evaluation mentioned that they found the reviews more "focused," that they felt there were fewer time constraints and that they simply were more comfortable speaking to a single professor:

"It is more helpful because you can ask your questions privately and not be embarrassed to ask. Maybe you could make an argument for one thing in your design that the teacher dislikes."

"There is less pressure during a one-on-one evaluation, so it's easier to ask questions. Discussing a project face to face takes away the ambiguity ..."

"It is more focused attention from both the professor and the student."

"I am not as nervous speaking to one professor."

"I feel that there is more time when the professor comes and talks one on one with the student."

"One on one evaluation leads to a more positive work environment."

There are many benefits of reviewing students' design work individually. Helena Webster's research suggested that students in design juries sometimes do not understand the feedback that they receive and do not seek clarification.¹¹ One-on-one evaluations are helpful in this regard simply because students are usually less defensive and more willing to ask questions. In particular, this technique is useful for beginning design students who may not have the design vocabulary necessary to understand discussions of their work and may be unprepared for the level of criticism levied during a typical design jury.

For the instructor, one-on-one evaluation is the most constructive format for addressing overall student performance and exploring the reasoning and process behind the design. These meetings can help to identify those students who are thoughtful designers, but who may be less proficient in the graphic and verbal presentation skills that are the focus of design juries. The dialogue that occurs can also be exceedingly valuable in forming a bond with each student. Although these meetings are exhausting and time consuming for the faculty member, it appears that there is no better format for demonstrating concern for each individual student's growth and well-being.

One-on-one Desk Critique

Another difference between the two forms of one-on-one feedback is that the desk critique occurs during the design process, allowing the student to address issues that arise. While the desk critique is not normally as private as the post-project evaluation, students still seem to prefer this type of evaluation to any of the other techniques. In mentioning what they like about desk critiques, students often cited the ability to instantly apply the information, the more relaxed setting, and the increased time for discussion.

The "student is allowed a good amount of time to ask any questions that they have about the project in a comfortable atmosphere ..."

"I can hear the information as well as receive visual feedback ..."

"I find the one on one desk critique to be most effective simply because you get feedback as your project develops."

"A one on one desk critique is very effective because the student and teacher began a relationship that helps develop the student from exactly where they are. It is also a chance to understand particular difficulties personal to each student's development."

". . . the feedback is more personal . . . "

"it occurs during the design process, so the information can be applied immediately"

¹¹ Jeffrey Karl Ochsner identifies this unusual aspect of design studios: "...on average each student receives one hour of attention from the instructor per week. This level of one-on-one instruction is offered in few other university settings." See Jeffrey Karl Ochsner "Behind the Mask: A Psychoanalytic Perspective on Interaction in the Design Studio, *Journal of Architectural Education*, 53 no. 4 (2000): 194-206.

Like the post-project evaluation, this type of feedback is very demanding upon the faculty member and can be repetitive, with the instructor addressing similar questions with each student. In addition, desk critiques do not provide variety of opinion unless there are additional professors or guest professionals invited. Nevertheless, there were very few negative comments about this form of feedback and these criticisms were about the content of the feedback provided rather than the format itself.

Conclusions and Recommendations

The two individualized forms of verbal feedback were ranked as the most effective techniques by both universities' students (see *Figure 8* for ratings). Students indicated that these formats resulted in greater understanding and encouragement and less pressure, embarrassment and ambiguity. The quantity of time that students spend one-on-one with faculty members is a unique and critical aspect of design education and students made it obvious that they crave this type of interaction. Their comments demonstrate that the instructor who neglects individualized design critiques risks having a class of very frustrated students who don't feel they are receiving the necessary feedback. One student's commentary provides an indication of the strength of student feeling on the matter; this respondent stated that in the one-on-one meetings they receive their "money's worth," because it isn't "a generic class evaluation."

While students consider these formats valuable, there are risks of overuse; the most serious is that these one-on-one meetings might inadvertently reinforce the idea that the professor has all the answers and is the arbiter of design 'truth.' One of the hardest adjustments for beginning design students is the transition to the complexity and ambiguity of the design professions. Not having an obviously correct answer or a clearly determined path to get there is difficult for many students. As a result, some simply try to give the instructor what they think he or she wants, rather than fully exploring the design on their own. In extreme cases, there are those students who would simply like the instructor to tell them precisely what they should do to achieve a high grade. A number of the students' comments were somewhat troubling in this regard:

"The professors have worked as professionals and can 'teach' us the correct way to design or at least point us in the right direction."

"The professor has the final say on if a design is considered successful or not so their input is important."

"desk crits let you know what exactly needs fixing"

"The professor is the one grading the project if you have one on one time with him/her it will reveal all of the faults in your project"

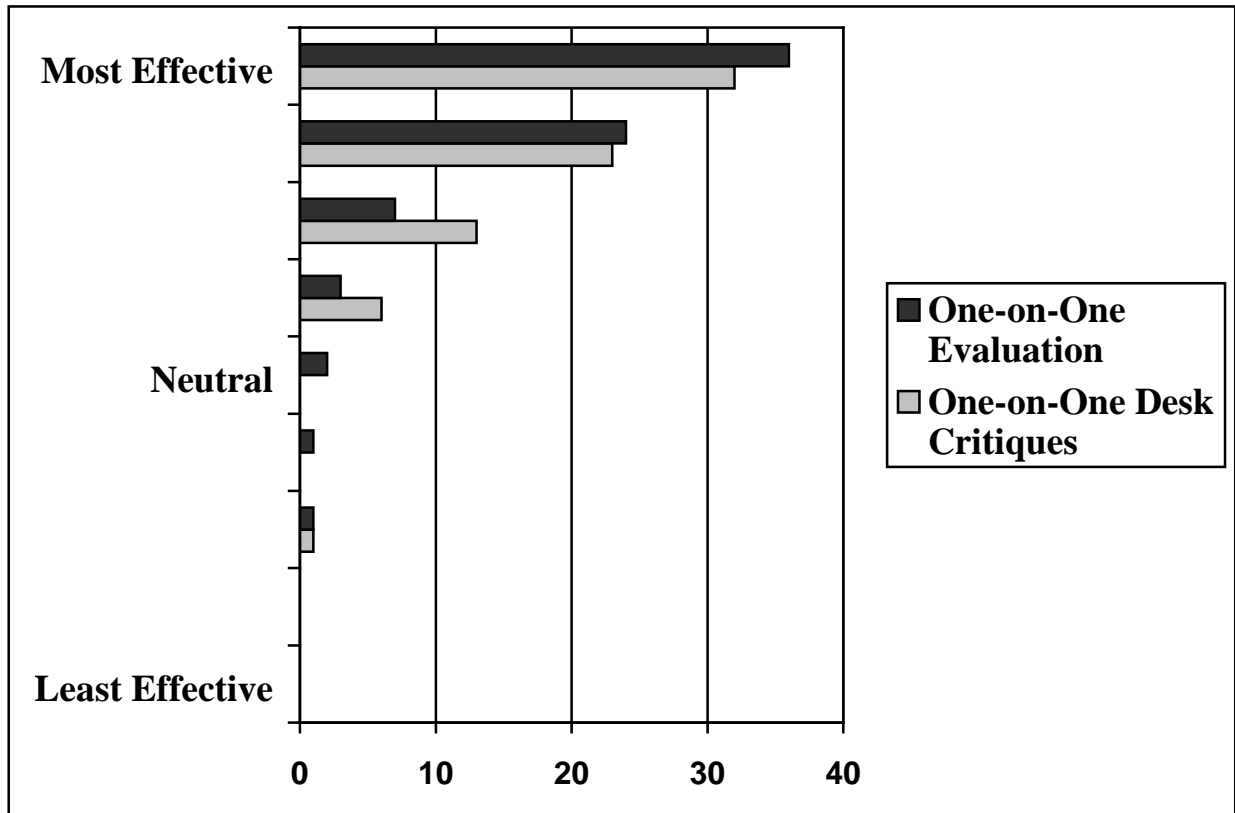


Figure 8: Frequency Analysis of Effectiveness Rating for All Forms of One-on-One Evaluation. Note: Students were asked to rate the effectiveness of the technique on a scale of 1 (Most Effective) to 9 (Least Effective).

The substance and quality of the interaction that takes place in any of the formats matters. However, the issue of providing students with specific design ideas or ‘the answers’ is not one of *format* but of *content*. While the student surveys did not address content, it is obvious that design educators must guard against providing the kind of individual assistance that might lead to student over-reliance or inability to self-critique. Other hazards of overusing one-on-one forms of feedback include the possibility of graduating students that are inadequately prepared for various aspects of professional practice. In most offices, design is a team effort and the ability to provide and receive constructive verbal and written critique is as important as pure design ability. Additionally, many types of design involve community input; in these cases, the designer functions as a consensus builder, rather than an autonomous artist. Finally, the ability to verbally present at a public meeting and appropriately respond to comments made during the presentation requires study and practice that the individualized forms of feedback simply don’t provide.

As controversial as traditional design juries are in some circles, they remain one of the only formats in which students verbally present their work and receive feedback from a large, diverse audience. These juries are viewed as effective by most students and a few students even listed this as their preferred format for critique. There are innumerable ways that the format might be improved and abandoning this technique entirely (as some have suggested) would seem

imprudent. The student respondents indicated that they find low-pressure meetings with familiar guests in an informal setting to be most effective; these responses suggest there may be some fairly simple ways for educators to improve student experiences. These include making the jury less of a 'high stakes' event and providing for greater interaction between students and guest critics. In addition, it may be best to avoid any discussion of overall student performance in front of the student's peers. Keeping the design jury focused upon critique of the work and not the student is the most obvious way to reduce the pressure and stress that often prevent design juries from being an effective learning experience. No matter what adjustments are made, there will likely always be students who find design juries intimidating and unpleasant. The best we can do for these students is to coach them about what to expect, how to present a design, and ways to deal with criticism. Design educators also should be careful not to overuse the jury as a method of design feedback; lack of variety could be one reason some students are so weary of this tradition.

An important lesson to be drawn from the survey is that student opinion isn't homogenous. Some of the lowest ranked techniques are the favored format of individual students. Each technique has its own unique set of benefits and limitations; some of the lowest ranked may be the best choice, depending upon the instructor's objective and the type of project being evaluated. If building critique skills is the goal, peer or self- evaluations may be the wisest choice, even if students don't necessarily recognize the benefits. In every case, evaluation techniques are best selected by considering the benefits and tradeoffs, as well as the educational purposes of the evaluation. Explaining this purpose to students is probably the most direct route to convincing them of the value and importance of the evaluation. Because all of the techniques have merit, however, and because different students prefer different forms of evaluation, variation is a critical consideration. Varying techniques builds student ability to give and receive a wide range of constructive criticism. Openness to critique, as well as the ability to explain design decisions verbally and in writing, are skills that will serve students throughout their careers.