Defining and Refining the Industrial Design Critique In Educational Settings

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Five students at Georgia Tech found themselves in the position of critiquing younger design students' work in a common freshman year class. As students of design, a large part of these five students’ education revolves around the design critique. They were comfortable as ‘a student being reviewed’ but not as a reviewer. This led to the industrial design students’ search for emotional handling of the critique, understanding the critique process in education, and guidelines for design students to follow during their critique. The five students conducted research through an independent study with me over a period of 10 weeks, surveying all graduate and undergraduate students, and the faculty members in the Industrial Design Program. Interviews, discussion groups, and observations of critiques were also part of the research conducted. How critiques occur, why they occur and when they should occur was also part of the research.

The responses of student and instructor to interviews and surveys indicated both consensus and discrepancy in their perception and understanding of a critique. Both instructors and students understood the critique as a time of evaluation, necessary in all stages of the design process, and agreed on the importance of this evaluation. Students overwhelmingly expressed welcome and the value of both peer and instructor critique. However, the students varied in the relative importance of the two. The break between student and instructor perceptions came at a very crucial point. The instructors emphasized the importance of constraints and evaluations based on pre-established criteria and objectives. Students rarely, if ever, alluded to criteria or objectives as the basis for the critique. The disparity between a strong student awareness for the importance of a critique and yet a lack of understanding for the essential foundation of the practice of evaluation has led the students and supporting faculty members to produce guidelines on design critiques for current and incoming students. These guidelines for critique will allow both the students and instructors to utilize their evaluation time more effectively and address issues such as sensitivity to criticism. This paper shares findings on critique with the industrial design educators, and guidelines for students as well.
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Introduction
   In the spring of 2001, several industrial design undergraduates were asked to guest jury several freshmen design class presentations. Being suddenly challenged with the vantage point of design reviewers, five of these students became interested in the nature and subject of design critiques. As students of design, the group was naturally familiar with their own perspective, and the perspective of their peers in design critiques. In being asked to switch roles to that of design evaluators, the group realized that teachers and reviewers may have a different perspective than those being reviewed. The group organized an independent study in the fall of 2001 under the instruction and guidance of Professor Lorraine Justice, with the hope they could articulate these two perspectives for the greater understanding of and communication between student and instructor, within this essential realm of design critiques. It was the students’ theory that any breach in communication between a student being reviewed and their reviewers is a cause for inefficiency in the value and production of the Industrial Design critiquing method as an educational tool.

Exploring the Industrial Design Critique
   To begin their study, the five students explored the existing structure and elements of the industrial design critique. Very little has been recorded on the industrial design critique and the students reverted to interviews and surveys. This preliminary research defined the concept of critique, the critique setting, and the resulting factors such as emotional handling and student presentation style. This understanding of critique became the basis for the formulation of survey questions created for the students and professors. The results of these surveys were intended to reveal the current perceptions of educational critique in students and instructors. The ensuing discrepancies and/or concurrences between these two bodies would be used to develop a list of guidelines on critique for incoming design students and to reveal to educators where and how the method of critique is affecting their students.

Gathering the Information
   The five students decided that in surveying full-time and adjunct instructors at Georgia Tech, their information would best be gleaned from a semi-structured interview. The instructors were e-mailed or approached in person and asked to schedule a time when they could sit down and discuss critiques with the group of researchers. Each instructor was interviewed alone, and was provided with the list of questions in advance to allow them to formulate their thoughts in accordance with what was needed from the interview. During the interview, a tape recorder was used to document the instructors’ answers and responses. The questions were open-ended, examples being “What is a critique?,” “Why are critiques necessary,” “How do you prepare for a student review,” and “How do you expect your students to prepare?” The interviews were initiated by asking questions directly from the prepared list. From there, the conversation often led in various directions with the
instructor answering multiple questions within one response. Follow up questions were sometimes asked as the conversation permitted. Once the interview began to flow, the list of questions was not referenced unless the conversation did not cover the topics.

Unlike the interview format with the instructors, it was decided that the majority of student responses would be best obtained through a written survey due to the peer level and close relationships between the five researchers and their classmates. The surveys were divided into three groups: 1) sophomores, 2) juniors and seniors, and 3) freshmen. Most questions were common between the three surveys, but several varied slightly to bring out issues relevant to only the specific class level. For example, the freshmen survey included questions such as “Is the critiquing process new to you?” and “Do you feel as though you were prepared for your first critique in college?” Junior and senior level surveys included questions such as “Do you feel design critiques have changed from your freshmen and sophomore year? If so, how?” The surveys were both emailed to the entire undergraduate industrial design student body, and handed out personally. Both the instructor questionnaire and student questionnaire had approximately twenty open-ended questions. To consolidate the responses, the five students read each individual response to a question, and determined what the general response was. In some cases, there were two or three general responses to each question. There discrepancies were noted and the multiple generalized responses were recorded.

In addition to the surveys, the group observed all levels of active critiques in the college, and casually discussed the subject with their peers. It was from this approach that reflections on class and jury awareness, participation, and response to various presentations and critique formats were developed. Their experiences in these observations and interviews further developed and enriched the results of both the student and instructor surveys.

**Survey and Observation Results**

In many of the responses, students shared similar views on several aspects of critique. Students’ general definition of critique included general evaluation, feedback, guidance, and presentation. One student responded, “A critique means a discussion of the project while receiving positive and negative comments and getting direction of where you might want to look in the future.” They distinguished between levels of critiques, citing working critiques as directional sessions and explaining formal critiques as times of overall evaluation. They also discussed the different levels of critique at different points in the design process. A student responds that critique is needed throughout the process and that “constant reaffirming is always good. It also is helpful to get negative feedback if you are going down the wrong path.” Students expressed their desires for positive and negative feedback (in varying amounts, however) as well as fresh perspectives from outside evaluators. The detailed student consensus, with both generalizations and quotations, are provided in the appendix.

Some of the more significant conclusions obtained from these procedures arose from differing student and instructor views of the critique in general. While instructors emphasize that evaluation and critique is to be based on given criteria, students rarely referenced the criteria and objectives involved in the evaluation of their projects. The students' distinction between good and bad design did not involve criteria, whereas the instructors overwhelmingly emphasized the distinction be based on pre-established standards and criteria.

Students expressed an overwhelming desire for meaningful feedback from peers and instructors alike, but many found extensive critiques and presentations involving the entire class laborious and undesirable. There is a great contradiction in their desire for feedback,
and their unwillingness to give their own input into others' projects during these extensive critiques. The researchers found that the majority of students highly regarded and sought fellow students' advice; however, they personally did not feel the desire to respond to another peer's project. Some students even acknowledged the contradiction in their desire for input and their unwillingness to give input to others. Many viewed fellow students' critiques as boring, and unhelpful to their own personal project.

The desire for constructive evaluation was extremely strong among the student body. In discussion with students, the five found that the level in which students held themselves in critiquing situations was in positive correlation to the level of feedback they expected to receive. In other words, students felt unenthusiastic, unmotivated, and uninspired by extensive critiques and presentations where the only viewers were their fellow studio classmates and professor—people who had been there throughout the design development, and therefore had no fresh response. The lack of constructive design response affected the students' pride in both their work and presentation.

**Project Outcomes**

The noted discrepancy in student and reviewer perceptions of critique situations, combined with other notable opinions and understandings, all highlight several other issues and methods of possible reconciliation. In attempt to bridge the perception gap, the group created a guide for students of design, in which both the major and more subtle points of critique were detailed as a combination of both student and evaluator/professor understanding of critique situations. The information obtained in the packet was gleaned both from student and professor responses to the interviews and surveys as well as from other observations of the critique process. Again, these guidelines would serve to decrease the breach in communication which affects the value and production of the industrial design critiquing method as an educational tool.

The students' concerns with uninteresting or unhelpful reviews promotes the idea of frequent guest reviewers or fresh reviewing settings. New reviewers add additional or fresh perspectives regarding a students' work. With a firm understanding of pre-established criteria as critique groundwork and the ensuing refined critique process, a guest evaluator can offer strong and insightful input. Different locations for reviews or alternate methods of presentation can also diminish student dissatisfaction and apathy. Locations outside of a studio or different locations within a studio could either elevate or lower the degree of presentations and related reviews. The room where the critique is held should be appropriate for the level of formality that the situation calls for. Different locations also add an amount of diversity to critique situations and decrease student anxiety over lengthy or repetitive presentations. Different methods of presentation could add the variance needed to increase student interest and input in critiques.

Professors also discussed various desires to make critiques more of an event. A direct relationship exists between the quality of student presentation and a professor's emphasis on the critique. During the Georgia Tech common freshman year, critiques are systematically formatted and the students know well in advance the critique setup. As a result, students create project deliverables with a critique presentation in mind. The emphasis for preparing for the end critique at the beginning of the project is created by the professors and infused in their instruction to students. Because of this emphasis, the student perceive (and sometimes fear) the critique as an event that demands nearly as much attention. However, the responsibility of providing a critique event lies firmly on the shoulders of the professor. The average student would make a poor catalyst for creating a strong critique because they are
focused on completing their project, not the critique. The motivation to unilaterally organize a highly structured critique is also not present in most students due to time restraints and basic academic apathy. A good critique starts with the professor, and is hopefully considered while creating the studio projects and atmosphere. If the critique is designed well, it can dissipate the aforementioned student apathy.

Future Implications

One additional issue relating to the critique involves the transfer of understanding gained in the group's study to the industrial design students and evaluator/professors. As stated, the five students created for distribution, handouts with both general and specific guidelines for students in critiques. Still, those involved must create an active association between information in the handout and real critique situations. Methods used to encourage healthy and beneficial critique situations must be presented clearly as such, perhaps not in name, but in practice. In other words, while not presented as “a critique to encourage student input”, the critique situation should consistently encourage student input (or be modified in order to do so) and draw constant reference from the concepts and understandings given in handout form or in class and be emphasized in the real critique situations.

Design Critique Recommendations for Success

As designers, we are in a constant state of critique, whether we are critiquing ourselves, others, or are being critiqued. The following guide to design critique is structured around a list of questions you should always be asking yourself in preparation of design evaluation. The information, suggestions and input have been taken from interviews with Georgia tech industrial design professors and all levels of undergraduate industrial design students.

*Design critiques are not an attack on you personally; they are instead a response to your work. The less emotional you are, the more useful a critique will be. Think of critiques as an opportunity to expand yourself mentally and broaden your design understanding and communication. Critiques are your chance to explain and present your project on your terms.*

Have I solved the problem?
Know your design objectives. From the beginning of a project, you should have a well-defined list of goals and objectives. Everyone must have some sort of standard with which to judge how successful your design attempt has been. The objectives and criteria of your design is something concrete that can be used to defend your decisions.

How should I present my project?

Where am I presenting?
Part of planning effectively for your critique is knowing where it will be held. The critique environment influences nearly every aspect of planning and delivery.

Level of formality
What sort of critique will this be? It is important to meet the formality level for which you are expected. The following aspects of critique will vary in formality depending on the type of critique. Desk, peer, and working critiques are usually less formal, while juried, and final
critiques are more formal. One on one critiques vary in their formality based on whom the critique is with.

Work quality
The quality of the work being presented is an extremely important part of the critique. No amount of riveting speaking or immaculate dressing will mask work which is not to the level it should be. However, the work does not always have to be perfect in order to have a critique. Desk critiques, one on one critiques, and even casual juried critiques are a good way to further a project along when it is still in its rough stages.

Speaking
When speaking, there are certain details that can enhance the impression made on the jury, and the audience. In a formal critique, things that can add to the attention span and attitude of the jury and the audience are appropriate volume level, eye contact, and body language. Remember, be yourself, and be passionate about your work.

Dress
Your work is not the only visual aspect of your presentation. When you are in front of an audience, they see you as well. Your appearance can reflect upon the overall impression of your project.

Presentation format
Beyond being instructed as to what format the critique will be in, and the time constraint for presentations, the overall visual style and design of your presentation is left to you. This is your chance to color the way your project is viewed. Plan well, and be prepared.

Computer-aided media
   How much time do I have?
   What programs are available?

Slides
Presentation boards
   Size- How much room do I have to pin up?
   Finish Quality- Is this a final presentation?
   Information- What purpose do these boards serve? Informative, visually, interactive?

Verbal explanation
   Will I be able to explain my work, or must it speak for itself?
   Can I successfully verbalize my ideas?

Models
   Transportation -How will I get my model there safely?
   Display- What sort of space, lighting and positioning do I need?
   This is your chance to tailor the way others see your project.

How do I want my project to be portrayed?
Highlight the positive aspects of your design.

What went well? What do you feel was successful?
Don’t attack your work.
If you feel very strongly about something negative in your work, turn it around and
tell the audience where you would like to see the project go from there, or in a final
presentation tell the audience what you would have done differently or focused on
more if you could do it all over again

What do I want to highlight?
If you focused on a particular aspect of your design, make sure the audience recognizes it.

What do I want to get out of this critique?
The critique should be a learning experience
Listen for things to improve upon in future projects
Listen for things that can be changed to immediately make the project better for the final
critique or its representation in your portfolio.

Who am I presenting to?
Instructor, fellow classmates, outside jurors?
Have they been made aware of the goals and objectives of the project? This way
they can better understand your thought processes. Viewing a design attempt
without knowing its background gives no restraint to outside jurors; they could easily
misinterpret your work.

What is my time limit?
Listeners get bored quickly.
Be concise
Stay within the time limit. A successful and enjoyable presenter is one who can make their
presentation effectively fill their allotted time. Running over on time can make the
presentation seem unorganized and poorly planned.
Don’t go overboard. Don’t dwell on a certain point in your design process for too long.
Make your point and then move on. Due to a lack of time or the lack of attention span that
the audience has, it is usually necessary to leave out some of the material that helped finalize
your final outcome. This is an opportunity to present only what you feel is most crucial to
your idea generation.

A good impression is a presenter who is concise and well spoken.
Know your facts and be confident when you explain your project. If you’re not positive
about your work, the people listening won’t be either.
How much really needs to be explained? Very often, it is the students with the weakest
projects who talk the longest. It is very obvious when a presenter is trying to make up for
their unproductiveness with extensive and unnecessary explanation.

Plan ahead; consider questions that might be asked, review your process and information,
organize what you will say.
Where am I in the design process?
The nature of a critique can depend on how far along in the project you are.
Understand your limitations.

Time to complete project
Recognize the length of time you had available to complete your project; only so much is possible in a limited time span.
Critiquers will adjust their expectations based on the time you’ve had to finish the project.

Information available
Recognize the limitations you have with the information available to you.
Be honest, if you don’t know something, don’t make up answers, hot air is easy to see through.

Know what is expected of you.
Communicate with your teacher. Make sure you understand the grading criteria and assignment criteria. Use this knowledge to form a basis for critique.

Am I ready to present my project?
Am I prepared mentally?
The result of my work is being judged, not me personally.
Comments are to be learned from
School is a good time to make mistakes and learn from them

Negative comments are as important as the positive.

Am I prepared physically?
Nothing can mask the quality of your work.
Strive to have a finished, clean presentation
Respect your work.
Pin your work up straight
Consider the placement of what you hang

What is my attitude?
Be positive
Do not point out, or apologize for problems with your project.
Be confident to the audience while presenting, but accommodating and open minded when you are listening to your reviewer’s responses.
Listen to reviewers with an open mind and understand that what they say might be an opinion, but it is an opinion based upon great experience.
Be serious, this is a simulation of a professional experience and should be treated as such.

This document is in no way a single, steadfast decree on design critiques. It is a place to start. Be creative, recognize your uniqueness…you are a designer.
**Presentation Title:** The establishment of tools to understand Universal Design  
**Category:** Universal Design / Education

**Abstract:**

This presentation is an interactive demonstration of the difficulties of being disabled. It will allow attendees to gain an understanding of what it is like to be physically challenged. I have established a set of tools that designers in Industrial Design programs and consulting firms may use to better understand physical limitations.

Far too often “Universal Design” is perceived as little more than adaptive equipment for the disabled. It is vital that the definition of “Universal Design” be clarified in order to truly respect its effort and necessity. Universally designed objects can be defined as products that are clearly operable and easy to use regardless of age, size, or ability. In order for this to be attained it is critical that designers visualize the various disabilities. One strategy is to imagine life experiences such as being a child, or a temporary physical disability such as a broken limb.

This paper describes new strategies developed in the design of a beverage-pouring device for users who are arthritic or motor skill impaired. The project was to simplify the process of carrying a gallon of milk, placing it into a refrigerator, and pouring a single serving for consumption. During the design process a need arose to explain why this product is not only beneficial to the abled community but also essential to the disabled community.

A simple tool to communicate the difference of abilities was to fill a gallon of milk with lead weights increasing its weight by 4 times. This allowed the physically abled to gain immediate insight on what it was like for a person with weak arm strength to pour a cup of milk. Since the gallon of milk appeared to look normal, test subjects did not expect it to weigh differently and were surprised by the difficulty to lift the device. This led to the observation and documentation of body posture and the natural physical corrective measures taken to offset the increased weight.

This experience prompted the development of additional devices to communicate different disabilities to the abled with instant and tangible results. Currently the devices explore areas directed to physical strength, mobility, as well as vision. A device to simulate hearing loss to different degrees is currently under development. The intention of these tools is that they will be available to all design curriculums thus creating an awareness of common disabilities. In my presentation I will introduce the importance of these devices and the critical need for a thorough understanding of Universal Design Principles. I will demonstrate a set of tools to provide insight to the physically abled and distribute these to educational facilities as well as professional organizations. These tools will be exhibited in an interactive workshop format as well as a formal presentation. My goal is to increase the Industrial designers’ awareness of the needs of the physically disabled, identify specific disabilities in terms familiar to designers and initiate physical guidelines that will develop more intelligent Universal products. As a designer with Muscular Dystrophy, the insights I have gained through personal experiences allow me to thoroughly communicate the needs and feasibility of concepts.

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Michigan University. Currently he is completing his Master of Fine Arts in industrial design at the University of Notre Dame. He has devoted his efforts towards the public awareness of the importance of universal design.