

Dissertation Prospectus

Informal Critique as a Method For Externalizing Design Thinking: An Ethnography of an Interaction Design Studio Master's Program

Colin M. Gray

Purpose

The use of a studio educational environment can be seen as typical in the training of professionals in a range of design disciplines, and this signature pedagogy (Shulman, 2005) is increasingly being adopted, in some manner, in a range of non-traditional design disciplines (Brandt, et al., 2011). In this study, I will investigate the occurrence and underlying structures of critique as it occurs in informal portions of design pedagogy, creating a descriptive record of informal design talk that is part of the "hidden curriculum" (Dutton, 1991) outside of the classroom or professor-led conversation (Schön, 1983) that has heretofore dominated the design pedagogy literature (Crysler, 1995).

This study will create a descriptive and analytic record that focuses on informal critique and related design behaviors, and I will expect to be able to recognize and name some types of interactions that occur between developing design students in the context of their informal design talk in the studio. I will then use this preliminary taxonomy as a way to understand how informal critique functions as part of the overall pedagogy and capture how students use this form of design talk to externalize their design thinking *in situ*. This study will create a rich descriptive record of critique as it occurs in informal studio spaces, which is fundamental to understanding how design pedagogy currently functions and how it may be adapted to other design disciplines in the future, fostering a view of design pedagogy that is influenced by both explicit pedagogical and surface features (Shaffer, 2003) and the informal interactions of developing design students.

Theoretical Background

The studio model of education commonly found in traditional design disciplines (Shulman, 2005) has been adopted and adapted in a number of non-traditional design disciplines in recent decades. This adoption of studio pedagogy as a model for educational practice has often been undertaken in non-traditional design disciplines without a full understanding of how the pedagogy functioned in relation to a specific subject matter prior to importation (Boling, 2010, Brown, 2002), since many of these traditional disciplines have not undergone a process of careful analysis (Crysler, 1995; Dutton, 1991). This lack of critical analysis is compounded, as non-traditional disciplines with even less understanding of how the features of the studio pedagogy may translate to a new discipline without the full spectrum of cultural assumptions and practices that traditional fields employ in their approach to studio education. Much of what is known about the studio, and by extension, the studio pedagogy, has been studied within the framing of specific design disciplines,

and has neglected key surface and pedagogical features (Shaffer, 2003) of the studio that contribute to the effectiveness of this form of education. Emerging scholarship, often employing a critical perspective, encourages the necessity of a more thoughtful and holistic approach to the study of design pedagogy (Crysler, 1995; Stevens, 1995; Webster, 2007). There are several major constructs that will be important to consider in this study, including: an overview of studio education and the domains in which this pedagogy is currently utilized, how critique is used within a studio pedagogy, and the current state of critical pedagogy as a perspective within design education.

Domains of studio pedagogy

While design education has commonly been studied within specific design contexts or disciplines (e.g., industrial design, architectural design, graphic design), other fields that have traditionally allied with more traditional scientific disciplines and social science are now experiencing a “turn to design” (Boling & Smith, 2012; Kuutti, 2009). With this shift to more “designerly ways of thinking,” many programs are beginning to incorporate elements of the studio signature pedagogy (Shulman, 2005) into non-traditional design disciplines such as interaction design (Blevins, Kim, Stolterman, Wolf, & Sato, 2007), instructional design (Boling & Smith, 2010), computer science (Cennamo, Douglas, Vernon, Brandt, Scott, Reimer, & McGrath, 2011), and engineering (Kuhn, 2001). As this shift continues, these non-traditional fields are importing portions of traditional studio pedagogy, including views and processes surrounding critique, but many of these practices have not been critically analyzed, particularly in informal, non-classroom spaces.

Critique in a studio pedagogy

Critique has long been held as a core of the design studio experience, both as a function of the pedagogy (Anthony, 1991; Klebesadel & Kornetsky, 2009), and as preparation for design justification in professional practice (Dannels, Gaffney, & Martin, 2008). Critique (or “crits”) can be used to describe many levels of activity in design education and professional practice. Common educational include public classroom critiques such as pin-ups or group crits, personalized classroom critiques in the form of desk crits, formal design juries that serve as high stakes evaluations, and peer critique (Blythman, Orr, & Blair, 2007; Hokanson, 2012). I will focus this study in the context of peer informal critique from a critical perspective, addressing critique that occurs apart from the potential strictures of the classroom or design jury. This form of peer critique is referenced only briefly in the literature (Hokanson, 2012), but describes a phenomenon that I have observed in previous studies that explore the activities of developing design students (Gray, 2013; in review). Informal peer critique will be developed as a new construct of critique, formed from two existing constructs: formal critique that already exists in the classroom and planned curriculum, and informal critique that dominates the process of design justification in professional practice.

Critical pedagogy

When investigating design pedagogy in an intensive way, a full examination of features and interactions from both the professor and student perspectives is important. According to Crysler (1995), “[c]ritical pedagogy attempts to show the logic of specific power relations and struggles in the educational process” (p. 208). While *formal* critique has been studied in a number of design fields from a pedagogical or curricular lens (Anthony, 1991; Hokanson, 2012), a critical view of this educational practice has been growing in the past decade, repudiating some individualistic conceptions of design education, including the role of socialization and reflection (Crysler, 1995; Stevens, 1995; Webster, 2008), and rethinking the role of power in formal design juries (Anthony, 1991; Webster, 2006). In this study, I will employ a critical pedagogy perspective in analyzing the differences between classroom design talk and informal design talk as these forms of communication externalize design thinking. This perspective will be used alongside a more encompassing view of critical theory seen as social and communication theory (Habermas, 1984; 1987).

Objectives

I have positioned this study to speak to two portions of this defined gap in the current literature—studying informal design activity from a critical pedagogy and critical theory perspective, and contextualizing this study in a field of design that has, only within the last decade, functioned within a studio pedagogy. This study will explore the role of informal critique and student activities in a non-classroom studio environment in a graduate Human-Computer Interaction design (HCI/d) Master’s program.

The study will focus on the following research questions, although emergent analytic questions in this framing may also be considered:

1. What forms of design talk occur between students in the studio space?
 - a. What design talk emerges as consistent with critique, and how might this informal critique be categorized or demarcated?
 - b. In what ways is this informal critique commenced, maintained, and concluded?
2. How does informal critique function as an externalization of an individual’s conception of design and design thinking?
3. Is this externalization consistent with student progress perceived by the program faculty? Is this externalization consistent with the stated pedagogical goals of the program faculty?

Methods

The proposed study will be qualitative in nature, employing a range of ethnographic methods (Carspecken, 1996; Madison, 2005) from a critical theory epistemology

(Habermas, 1984; 1987). The ethnographic site will be the graduate design studio that is managed by the HCI/d program in the School of Informatics at Indiana University Bloomington. This program is comprised of approximately 75 Master's students in a two-year program, 10 PhD students, and five full-time faculty. The space consists of several large work and collaboration areas, whiteboards, digital projection capabilities, and faculty offices (Callison, 2011).

The study will include descriptive and analytic components, and will rely on a range of ethnographic methods, including: participant observation, classroom observations, semi-structured interviews, reflections, and focus groups. I plan to assume a range of participant roles in the space as would be appropriate for a student working in the studio, including: 1) detached observation ("fly-on-the-wall") with no explicit verbal or participatory action; 2) minimal participation, including responding to greetings and direct questions, but not commencing or leading conversations; and 3) active participation, which may include commencing conversations, dialoguing in a leading or guiding way in what I perceive to be a normative student role. These three perspectives of participant observation will be used interchangeably and in a reflexive manner as approaches to describe and analyze activities in the space, recognizing the value of emic and etic views of the studio environment.

Analysis of data will be executed in parallel with the data collection process using digital coding tools (e.g., Dedoose, NVivo). Digital field notes and selected transcriptions of audio recordings will be imported into this tool and coded along several independent coding schemes, including, but not limited to: participant(s) name, type of activity (class work, meeting, socializing), tools in use (whiteboard, computer, iPad), and relevance to coursework (class that project is for, insight from lecture or reading). These codes will be applied non-exclusively and updated continuously as new data is collected and coded. Formal data analysis will focus on several critical incidents identified in the corpus of data. These critical incidents will be coded for additional behaviors, meaning fields, validity horizons, and other methods used for a critical analysis of data. Sequence analysis and other constructions of meaning may also be used to analyze the data and structure the findings in final written form. The final dissertation will be constructed around three primary sections: 1) an initial narrative of informal design activity in the space; 2) a detailed evaluation of 5-6 critical incidents that represent a range of informal critique as it occurs in the space; this will include contextual narrative, reproduction of speech acts, if available, and appropriate analysis, that may include sequence analysis, thematic analysis, and meaning field reconstruction; and 3) a synthesis of the initial narrative and critical incidents, forming a theoretical basis for future study of informal critique in the design studio.

Additional details about the methodology employed to answer each research question is detailed below:

***What forms of informal critique occur between students in the studio space?
How is this critique commenced, maintained, and concluded?***

I plan to observe the studio space using participant observation techniques for approximately 150 hours during the Spring 2013 semester, which will be characterized as preliminary data to inform the full dissertation study. The final number of observational hours will be determined based on the presence of students in the studio space and perceived saturation of types of events being observed. Based on these initial framing observations, I will use participant observation techniques to observe the design space for an additional 150 hours of observation during the Fall 2013 semester, with the final number of observational hours to be guided by similar criteria as for the Spring 2013 semester.

In both semesters, I will use handwritten field notes as the primary data collection method, supplemented by audio recordings of salient events and photographs of whiteboard sketches, design artifacts, positioning of students, and other temporal elements of the space. Typed field notes will be produced from the handwritten field notes in close proximity to the data collection period, functioning as both a mechanical translation of analog to digital form, and as a way to reflect on the written field notes *vis à vis* the perceived experience of the researcher, filling in details to create a richer, more complete account of the observed events as experienced by the researcher.

In conjunction with the participant observation of the design space, I will solicit students who are active within the space by email to participate in interviews and focus group(s), capturing their beliefs about critique and how they engage in informal critique during the Spring 2013 and Fall 2013 semesters. Students have been notified that I am observing the design studio space, and new students will be notified at the beginning of the Fall 2013 semester. Initial analysis of data from participant observations will be utilized to conduct these interviews and focus groups.

How do student perspectives of design thinking or academic progress as enacted through informal critique differ from or concur with the perspective or stated goals of the program faculty?

During the Fall 2013 semester, I plan to observe classroom instruction for several of the core courses offered to first- and second-year Master's students. This will include approximately 50 hours of classroom observation during the semester.

In addition to the classroom observations, I will solicit faculty in the courses I observe to complete a bi-weekly reflection or brief interview, capturing their goals for instruction, and their perceived sense of student progress.

I will use interviews and focus group(s) with students to capture their perceived academic progress and conception of design thinking during the Fall 2013 semester.

This data will be triangulated with participant observations in the Fall 2013 semester and contrasted with classroom observations and faculty reflections.

Table 1 summarizes the data I plan to collect in the Spring 2013 semester as preliminary pilot data, and in the Fall 2013 semester as dissertation data:

	Spring 2013 (Pilot Data)	Fall 2013 (Dissertation Data)
Participant Observations	150 hours or until saturation of incidents occurs. Includes audio recordings and photos.	150 hours, or until saturation of incidents occurs. Includes audio recordings and photos.
Classroom Observations		40-75 hours (depending on number of classes available to observe)
Interviews	Up to 2 interviews per requested participant	Up to 2 interviews per requested participant
Focus Groups	Up to 3 focus groups, each of which includes up to 4 participants	Up to 3 focus groups, each of which includes up to 4 participants
Faculty Reflections		Bi-weekly for each course being observed

Table 1. Summary of data collection sources.

Timeline

Proposal submitted to committee April 1, 2013

Proposal defense May 7, 2013

Preliminary data collection begins February 1, 2013

Data collection complete late November 2013

Data analysis complete by February 2014

Submission to research committee early March 2014

Defense scheduled early April 2014

Final submission by May 1, 2014

Needed Resources

- Access to selected classroom spaces within the HCI/d curriculum (as approved by program faculty) during the Fall 2013 semester
- Potential funds for payment of students participating in interviews or focus groups

References

- Anthony, K. H. (1991). *Design juries on trial: The renaissance of the design studio*. New York: Van Nostrand Reinhold.
- Blevis, E., Lim, Y. -K., Stolterman, E., Wolf, T. V., & Sato, K. (2007). Supporting design studio culture in HCI. In *CHI EA '07: CHI '07 extended abstracts on human factors in computing systems* (pp. 2821-2824). ACM.
doi:10.1145/1240866.1241086
- Blythman, M., Orr, S., & Blair B. (2007). Critiquing the Crit. Retrieved from <http://www.adm.heacademy.ac.uk/library/files/adm-hea-projects/learning-and-teaching-projects/crit-final-report.pdf>
- Boling, E., & Smith, K. M. (2012). The changing nature of design. In R. Reiser & J. V. Dempsey (Eds.), *Trends and issues in instructional design and technology* (3rd ed., pp. 358-366). Boston, MA: Allyn and Bacon.
- Boling, E., & Smith, K. M. (2010). *Intensive studio experience in a non-studio masters program: Student activities and thinking across levels of design*. Design Research Society International Conference, Montréal.
- Brandt, C. B., Cennamo, K., Douglas, S., Vernon, M., McGrath, M., & Reimer, Y. (2011). A theoretical framework for the studio as a learning environment. *International Journal of Technology and Design Education*, 1-20.
- Brown, J. S. (2002). The social life of learning: How can continuing education be reconfigured in the future? *Continuing Higher Education Review*, 66, 50-69
- Callison, M. (2011). A design case featuring the graduate design studio at Indiana University Bloomington's human-computer interaction design program. *International Journal of Designs for Learning*, 2(1).
- Carspecken, P. F. (1996). *Critical ethnography in educational research: A theoretical and practical guide*. New York, NY: Routledge.
- Cennamo, K., Douglas, S. A., Vernon, M., Brandt, C., Scott, B., Reimer, Y., & McGrath, M. (2011). Promoting creativity in the computer science design studio. *Proceedings of the 42nd ACM Technical Symposium on Computer Science Education*, 649-654.
- Crysler, C. G. (1995). Critical pedagogy and architectural education. *Journal of Architectural Education*, 48(4), 208-217.
- Dannels, D., Gaffney, A., & Martin, K. (2008). Beyond content, deeper than delivery: What critique feedback reveals about communication expectations in design education. *International Journal for the Scholarship of Teaching and Learning*, 2(2).
- Gray, C. M. (2013). Informal Peer Critique and the Negotiation of Habitus in a Design Studio. Full paper to be presented at Design Research Society Cumulus, Oslo, Norway.
- Gray, C. M. (in review). Discursive Structures of Informal Critique in an HCI Design Studio. Submitted to Nordes 2013, Copenhagen, Denmark/Malmö, Sweden.
- Habermas, J. (1984). *The theory of communicative action* (Vol. 1). Boston, MA: Beacon Press.
- Habermas, J. (1987). *The theory of communicative action* (Vol. 2). Boston, MA: Beacon Press.

- Hokanson, B. (2012). The design critique as a model for distributed learning. In L. Moller & J. B. Huett (Eds.), *The next generation of distance education: Unconstrained learning* (pp. 71-83). Boston, MA: Springer.
- Klebesadel, H., & Kornetsky, L. (2009). Critique as signature pedagogy in the arts. In R. Gurung, N. Chick, & A. Haynie (Eds.), *Exploring signature pedagogies: Approaches to teaching disciplinary habits of mind* (pp. 99-120). Sterling, VA: Stylus Publishing.
- Kuhn, S. (2001). Learning from the architecture studio: Implications for project-based pedagogy. *International Journal of Engineering Education*, 17(4/5), 349-352.
- Kuutti, K. (2009). HCI and design: Uncomfortable bedfellows? In Binder, Löwgren, & Malmborg (Eds.), *(Re)searching the digital Bauhaus* (pp. 43-60). London: Springer.
- Madison, D. S. (2005). *Critical ethnography: method, ethics, and performance*. Thousand Oaks, CA: Sage Publications.
- Shaffer, D. W. (2003). *Portrait of the oxford design studio: An ethnography of design pedagogy*. WCER Working Paper No. 2003-11. Madison, WI: University of Wisconsin-Madison, Wisconsin Center for Educational Research.
- Shulman, L. S. (2005). Signature pedagogies in the professions. *Daedalus*, 134(3), 52-59.
- Stevens, G. (1995). Struggle in the studio: A Bourdivin look at architectural pedagogy. *Journal of Architectural Education (1984-)*, 49(2), 105-122.
- Webster, H. (2007). The analytics of power: Re-presenting the design jury. *Journal of Architectural Education*, 60(3), 21-27.