

Verbalization of Design Thinking through Informal Peer Critique

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Abstract: Critique has long been considered a vital part of the design studio pedagogy, but formal critique is emphasized in the literature in lieu of peer critique. I examined the verbalization of design thinking through informal peer critique utilizing interviews and a constructed critique dyad. Analysis includes the comparison of a participant's auto-critique to their peer dyad critique, and resulting changes in the way they talk about their designed artifact.

Critique has long been considered a benchmark of design education, serving as both a structural mechanism with which to provide regular feedback (Cennamo, Brandt, & Scott, 2010), and as a high stakes assessment tool (Anthony, 1991). Critique can be seen in more or less formal positions in the pedagogy of the studio, ranging from an informal desk crit (Reimer & Douglas, 2003; Boling & Smith, 2010) to a formal critique attended by multiple faculty comprising a "design jury" (Anthony, 1991). The formal crit emphasizes authoritative power, putting the student in the subordinate position. (Percy, 2004), while the desk crit is more informal, facilitating day-to-day evaluation in the studio environment (Boling & Smith, 2010).

The role of self-reflection with a design artifact or problem is widely acknowledged as an important factor leading to developing as a designer (Schön, 1985; Cross, 2007). This self-reflection can take many forms, including internal dialogue (Schön, 1985), sketching (Do & Gross, 1996), and a community of practice surrounding the designer (Cennamo, et al, 2010). Verbalization of design naturally moves beyond self-reflection, engaging the student with the studio environment, resulting in immersive participation in the design process (Logan, 2008). The designer should progress through different types of communication about design, including verbalization of design details using a narrative approach (Morton & O'Brien, 2006) and including transparency of design intent (Dannels, Gaffney, & Martin, 2008).

Within the studio environment, I propose informal peer critique as a natural extension of these existing critique forms, engaging the practice community (Cennamo, et al, 2010) in *reflection-in-action* due to the natural physical co-location of the studio environment. In this study, I explore the role of informal peer critique in enabling students to verbalize their design process and design intent. This is important in order to gain greater understanding of the pedagogical role of informal critique in shaping design thinking and judgment. Research questions for this study include:

1. What role does informal critique play in a designer's understanding of their work?
2. How does informal peer critique encourage verbalization of design decisions?

This qualitative study was informed by a critical theory perspective, and used a combination of interview and naturalistic techniques in the process of data collection. A critical theory perspective allowed the researcher to elicit responses for which the participants had tacit awareness (Carspecken, 1996), and served as an exploratory vehicle in understanding initial patterns of design thinking and critique.

The study was conducted at a large midwestern university, focusing on students in the graduate Human Computer Interaction design (HCI/d) program. The participants in this study included four students. A series of three data collection opportunities were requested from participants, including an initial individual interview, critique in a constructed dyad, and an individual stimulated recall session. The initial interview followed a semi-structured format with a duration of approximately one hour. At the conclusion of this initial interview, the participant was asked to present an auto-critique or design rationale for their chosen design project. The critique dyads were constructed using two participants (for a total of two dyads), and they were asked to critique each other's chosen design project in turn, with the interviewer prompting for more information as necessary. The duration of this critique was approximately one hour, including time for each critique and the participant's response. After a period of analysis by the researcher, a stimulated recall session will be performed individually with each participant. The researcher will ask follow-up questions based on the first two data collection opportunities, including, but not limited to, member checking of responses, discussion of thought process during specific audio or video segments of the critique dyad, and verification of data coding or interaction schemes.

Final data collection and analysis is ongoing, and will be completed by early summer. Sequence analysis and coding of the initial interview data will be performed (Carspecken, 1996). Comparison of the initial auto-critique to peer critique to designer response will be analyzed to note changes in verbalization of design thinking or rationale. The role of the designer as defending their choices or suggesting changes to their existing artifact, including implicit reasoning patterns, will be considered. Implications from this study for the use of peer critique in design education will be discussed, including the role of a studio culture in facilitating this process.

References

- Anthony, K. H. (1991). Design juries on trial: The renaissance of the design studio.
- Boling, E., & Smith, K. M. (2010). *Intensive studio experience in a non-studio masters program: Student activities and thinking across levels of design*. Montréal: Design Research Society International Conference.

- Carspecken, P. F. (1996). *Critical ethnography in educational research: A theoretical and practical guide*. New York: Routledge.
- Cross, N. (2007). *Designerly ways of knowing*. Basel, Switzerland: Birkhäuser.
- Cross, N., Christiaans, H., & Dorst, K. (1996). *Analysing design activity*. Chichester: Wiley.
- Cennamo, K., Brandt, C., Douglas, S., Vernon, M., & McGrath, M. (2010, April 30). A theoretical overview of the studio as a learning environment.
- Cennamo, K., Brandt, C., & Scott, B. (2010). Adapting the studio to design-based disciplines: Research-Based strategies for effective practice. In *Proceedings of the 2010 conference on higher education pedagogy, blacksburg, VA* (pp. 14-5).
- Dannels, D., Gaffney, A., & Martin, K. (2008). Beyond content, deeper than delivery: What critique feedback reveals about communication expectations in design education.
- Do, E. Y. L., & Gross, M. D. (1996). Drawing as a means to design reasoning. In *AI and design*.
- Logan, C. (2008). Metaphor and pedagogy in the design practicum. *International Journal of Technology and Design Education*, 18(1), 1-17. doi:10.1007/s10798-006-9009-x
- Morton, J., & O'Brien, D. (2006). Selling your design: Oral communication pedagogy in design education. *Communication Education*, 54(1), 6-19. doi:10.1080/03634520500076885
- Percy, C. (2004). Critical absence versus critical engagement. Problematics of the crit in design learning and teaching. *Art, Design & Communication in Higher Education*, 2(3), 143-154.
- Reimer, Y. J., & Douglas, S. A. (2003). Teaching HCI design with the studio approach. *Computer Science Education*, 13(3), 191-205.
- Schön, D. A. (1985). *The design studio: An exploration of its traditions and potentials*. London: RIBA Publications Limited.