CLASSROOM REFLECTION

A TOOL TO EXTERNALIZE CONCEPTIONS OF DESIGN

COLIN GRAY | INDIANA UNIVERSITY

OVERVIEW

Reflection is a common educational practice that encourages synthesis and evaluation of learning in a self-directed manner. In this study, I use Schön's conception of reflection-on-action to analyze pictorial and textual reflections collected from beginning design students in an intensive interaction design course. Analysis of these reflections shows that students externalize their tacit conceptions of design, and highlight a variety of barriers they pass through as their conceptions of design shift.

METHOD

This study is built around a formal artifact analysis, which led to a multiple case study to explain the results. The context of the study was an introductory design course in a graduate interaction design program, which required students to complete regular reflections in pictorial and textual form. A "whole game" sketch of their view of interaction design was required at the end of each of the first three projects, while a reflection on the course blog was required weekly. At the conclusion of the semester, 8 of the 43 total participants were selected for closer analysis, and these subjects were interviewed to understand more deeply the experience that surrounded their completion of the reflection activities. Three of these cases are very briefly summarized on this handout.

EARLY INSIGHTS

Based on the analysis of data, several insights have emerged that are valuable for future research in reflection and in understanding how designers develop expertise over time.

Disjuncture between pictorial and textual reflections. There seems to be a lack of awareness of certain ideas in specific mediums. While many of the big issues came up in rich form in the blog format, many "soft skills" such as time management/prioritization, teamwork, critique, and iteration are weakly represented, if at all, in the sketch record.

Issues of pictorial representation in early design education. There is a substantial inability from the majority of the participants to represent what to them is ineffable or tacit—at least in visual form. While most participants were able to adequately express their sense of conflict and shift in identity around becoming a designer on the blog, few were able to express this thinking until the third sketch, if at all.

Revealing individual conceptions of designerly identity. These reflections, beyond providing an individual record of one's experience in and out of the classroom environment, also serve as a externalized depiction of the development of a design identity over time. Over time, it is evident through these materials, both to the individual and to an external observer, how the design student has shifted or redefined their identity in relation to design and the pedagogy in which they are involved.

SELECTED REFERENCES

Dorst, K., & Reymen, I. (2004). Levels of expertise in design education. In *International Engineering and Product Design Education Conference*, Delft, The Netherlands.

Gray, C. M., & Siegel, M. A. (2013). Sketching design thinking: Representations of design in education and practice . In *DRS // CUMULUS 2013. 2nd international conference for design education researchers* (pp. 2008-2031). Oslo, Norway.

Perkins, D. N. (2010). Making learning whole: How seven principles of teaching can transform education. San Francisco, CA: Jossey-Bass.

Rogers, R. (2001). Reflection in higher education: A concept analysis. *Innovative Higher Education, 26*(1), 37-57. doi:10.1023/A:101098640452

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action.* New York, NY: Basic Books.

Siegel, M. A., & Stolterman, E. (2008). Metamorphosis: Transforming non-designers into designers. In Undisciplined! *Proceedings of the Design Research Society conference 2008* (pp. 378:1-13). Sheffield, UK: Sheffield Hallam University.

PARKER computer science
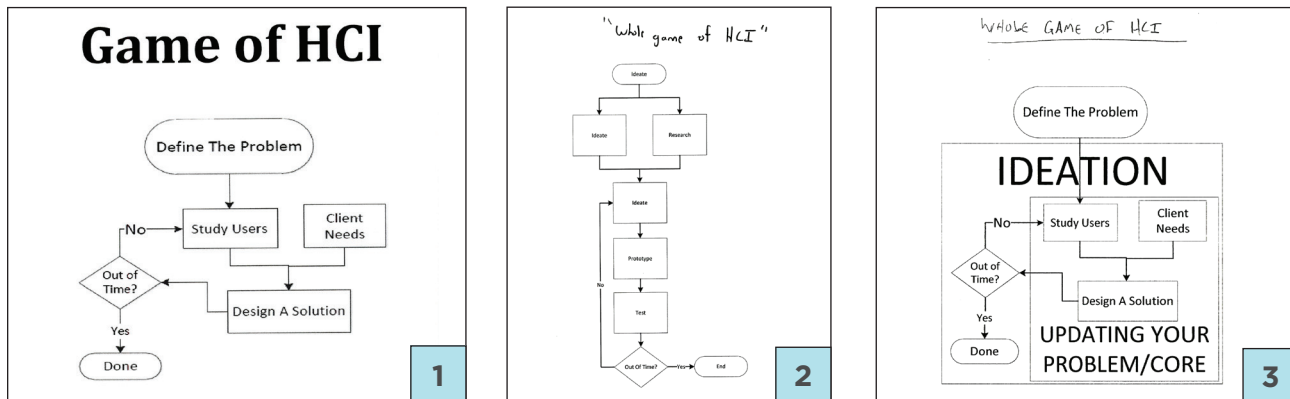
Parker was feeling the heat of project work, having had to quit a sports team he was on—priorities were an ongoing concern, as he explains: "I had a little breakdown in how I was prioritizing my life [...] so I was a little distant" (W8). Despite this breakdown of prioritization, his sketch retained a flowchart paradigm with a basic step-wise organization.

NAVEEN engineering
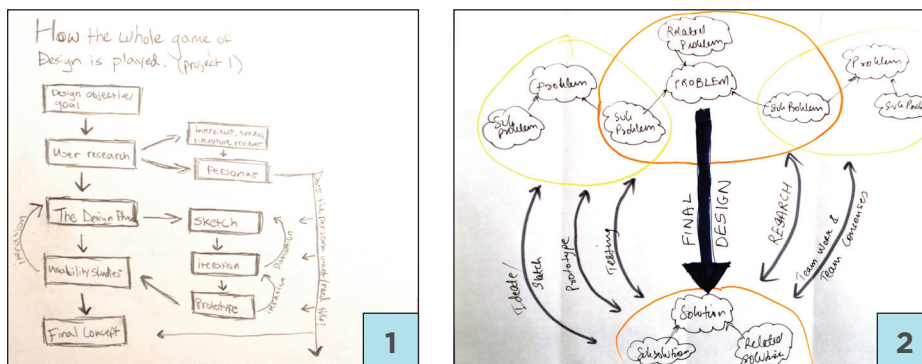
Naveen noted his experience of the course, explaining "[the professor] wants us to feel exhausted and suffocated by the way 'we think' design work is done"—and Naveen's second sketch shows a substantial shift in his view of design. He also noted the impact of watching a video about Maya Lin in class, and how that shaped his view of research.

ISABELLA computer science
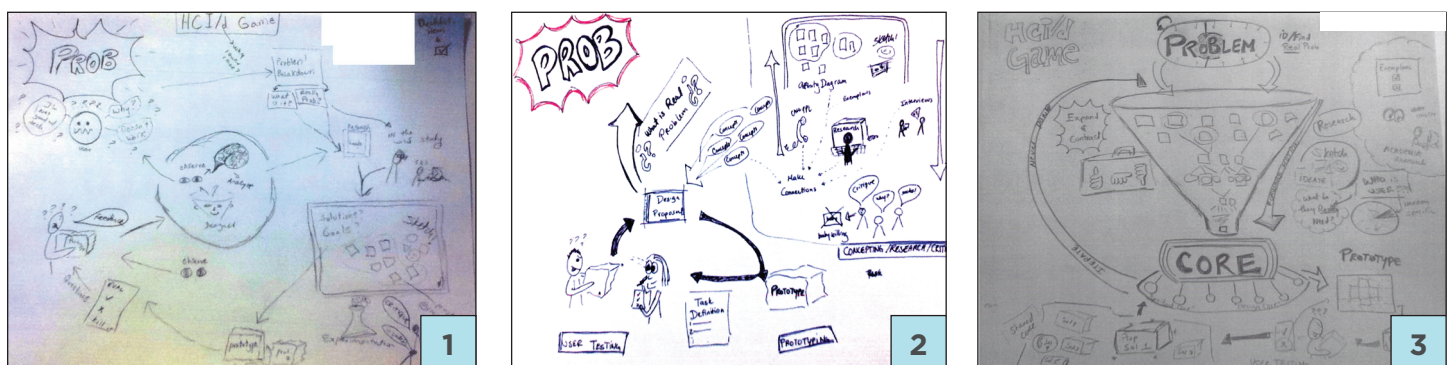
Isabella reflected on her experience in the course—she was confident and arrogant coming in, "work[ing] on Wall Street," but is now in "one boat" with her colleagues—"[the course] was an emotional roller coaster [and] I loved it."