

ENGAGING STUDENTS IN CURRICULUM DEVELOPMENT THROUGH DESIGN THINKING: A COURSE DESIGN CASE

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This design case documents the motivations, decisions, and results of an experimental course that involved students in the curriculum development process through the use of design thinking methodology. Primary points of student input were determining assignment topics, developing learning objectives, and contributing to the design of grading assessment. The case also examines the student experience and provides a detailed evaluation of the process, including an assessment of the benefits of the approach and a dissection of the unforeseen obstacles in the design process. In this investigation into the intention and execution of the course, educators may find the inspiration and framework to adapt this approach for their own courses.

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INTRODUCTION

As an educator who participates in curriculum development, I wondered if taking a user-focused approach may lend some innovation to curriculum design. Because of the gains in usability and satisfaction tied to user-involvement in the process of creating a traditional design artifact, I reasoned that the structure of a course could benefit from the same participant inclusion.

The course where I tested a new form of curriculum design, ART 493: Design Learning Lab, ran in the fall of 2017 and was an experiment on the potential and efficacy of utilizing design thinking methodology to develop a course curriculum with student participation. My motive was born of a personal desire to see how the inclusion of students and customization of a course might influence student engagement and learning.

The primary design artifact was a model for involving students in curriculum development. The secondary artifact, a customized curriculum, was created in response to student feedback on online questionnaires, classroom discussions, and performance on other evaluative measures—all integral to the course content. This design case evaluates and reports on the value and level of success of using this approach to develop a course.

CONTEXT

Setting

Cleveland State University is a public, urban research university with enrollment around 17,000. It has a minority student population of about 27% and ranks third in Ohio for financial aid assistance (Office of Academic Planning, 2017). The design track within the art degree is the fastest-growing major in the department and provides a Bachelor of Arts degree, a Design minor, and a Design certificate. I am one of four full-time design faculty that serve about 90 majors, minors, and certificate students. While many of our courses include lab fees for classroom supplies, this course did not have any attached funding. The minimal materials used (post-its, sharpies, and paper) were taken from an

on-hand supply. I used the survey platform Survey Monkey for all online surveys and Schoology as the class Learning Management System. In terms of technology access, the department maintains a computer lab for student use, which is staffed by student employees. Students in the program are not required to purchase a laptop or Adobe software subscription, but all those enrolled in this course had access to their own machines and software.

Logistics

ART 493 is a “Special Topics” course within the graphic design major at Cleveland State. It is a flexible designation that allows faculty to augment the existing curriculum as needed. Students were recruited for the course in the spring of 2016 in accordance with departmental advising procedures and university course registration. Students were informed that the special topics course would count as elective credit and consist of a customized curriculum in which they would participate and focus on learning methodology. As I was recruiting for participants in this class, I admittedly solicited students who I knew would be active participants or would enjoy being included in curricular design.

Ten students were enrolled, allowing for an ideal student-to-faculty ratio (design caps are typically 20 students). Enrollment consisted of sophomores, juniors, and seniors, all graphic design majors. The only requirement was that students had taken the foundational Introduction to Typography and Design and Introduction to Visual Technology (Adobe software) courses. Design courses at Cleveland State are categorized as lecture courses and last one hour and fifteen minutes (as opposed to the two hours and forty-five minutes allotted for studio-length courses). I received Internal Review Board (IRB) approval to document this process as a research study, which was designated a classroom study.

PERSPECTIVE ON THE DESIGN

Motivations

I wanted to test a new method of curriculum development to better engage all learners. I’d observed differences in how self-regulated learners and the average student digested content and approached assignments. There were several things I speculated a course curriculum could improve upon. These included:

- engaging students in assignments;
- encouraging metacognitive thinking;
- and helping students understand why they were learning what they were learning.

My approach to teaching is based on an interest in pedagogical research and includes a continual reshaping of my curricular materials and teaching methods in order to improve

student learning outcomes and contribute to academic discourse. My methods are informed by design thinking and cognitive psychology science with the aim of discovering adaptive approaches that promote student engagement and self-directed learning. I view each iteration of a course as a prototype to be tested and refined, typically based on my observations, discussions with colleagues about the evidence of student learning, and informal student feedback.

I integrate many principles of design thinking facilitation in my teaching practice across courses. Facilitation is distinct from teaching in that it focuses on extracting observations, insights, and ideas from participants using specific techniques or activities, all while fostering a collaborative environment. IBM, considered an innovator in design thinking implementation, has produced guidelines for effective facilitation. Some of their best practices I incorporate into my teaching are:

- **“Flexible and Adaptive.”** Observes what is happening, analyzes, and suggests activities and prompts on the fly.
- **Enthusiastic and Empathetic.** Warm and approachable show(wo)man who pays attention to group dynamics and puts people at ease while inspiring confidence.
- **Resilient.** Diffuses and deflects difficult personalities, is not afraid to fail in front of others.
- **Reflective.** Evaluates his/her performance because s/he always wants to be more effective.
- **Open and Collaborative.** “What if we try this?” “Any ideas about how to be more productive?” (Shade, 2016).

Adopting a design thinking mentality, I theorized that a course curriculum might better be able to accomplish its objectives if the users, students, in this case, were included in the development process. Engaging in this process of curriculum design was a means to formalize and broaden my prototype-testing approach to teaching by creating a course based on the principles of student-centered learning using design thinking methods. The intention of this course design was not to create a permanent addition to the graphic design major curriculum, but instead to test a method of curricular design through the implementation of an actual, live course prototype.

I hypothesized that inviting students into the process of curriculum development would give them a more in-depth understanding of the intentions behind assignments and help promote self-regulated learning. Self-regulated learners have developed processes to assess their learning within a course or project and identify and address skill and knowledge gaps (Kaplan et al., 2013). These are the students who have immediate, well-formed questions after a project has been introduced and can demonstrate that they’ve thought critically about the information presented and how it will apply to their specific knowledge set (Brown et al., 2014). The self-regulated learner thinks metacognitively—assessing

their own learning along the way. They “plan, organize, self-instruct, self-monitor, and self-evaluate... during the learning process” (Zimmerman, 1986, p. 308). In design courses, these students tend to display an ability to strategically pace their progress on assignments and show consistent development in critiques.

This type of specifically engaged student—the meta-cognitive thinker—can be in the minority. While many students in a class may demonstrate engagement with course assignments, I’ve observed that others have difficulty identifying what they are learning, why they are learning it, and how they are progressing in their learning, key factors in establishing durable learning (Kaplan et al., 2013). I sense that students are aware of assignment objectives and strive to meet them without a full understanding of what new skills and knowledge are being developed and how they interplay with their existing knowledge. This isn’t to say that the average student isn’t engaged in their coursework or learning something, rather, that the intention behind their engagement could be shifted to promote greater levels of metacognitive thinking and durable learning.

Another thing I wanted to address within a method of curricular design that included students was a way to help them feel that they have a stake in the course and the classroom experience, removing thoughts of “I’m just here to receive information and the learning will be imparted to

me.” I’ve seen instances in my courses, and courses of other instructors, where it seems that students don’t understand why they are learning what they’re learning or why assignment topics have been chosen. My aim was to shift beliefs that assignment components were arbitrary by bringing students into the process of selecting and building those components.

In giving students a part in the development of the course, it became their own. As stakeholders, not only would they be responsible for advocating for topics that would be beneficial to themselves and their classmates, they would be responsible for performing well within an assignment topic they had chosen. I wanted to facilitate the understanding that their engagement in the course was not a byproduct of taking a class, but a crucial component in the learning experience and building lasting knowledge. I sought to shift the mentality of performance to one of engagement.

Design Thinking Methods

My plan for this course consisted of taking a design thinking approach that consisted of specific methods to involve the student user and interpret and test findings through an empathize-define-ideate-prototype-test loop. My perspective has been influenced by three thought leaders in the field: IBM Design, IDEO, and the Hasso Plattner Institute of Design at Stanford (d.school). Each of these entities stresses the

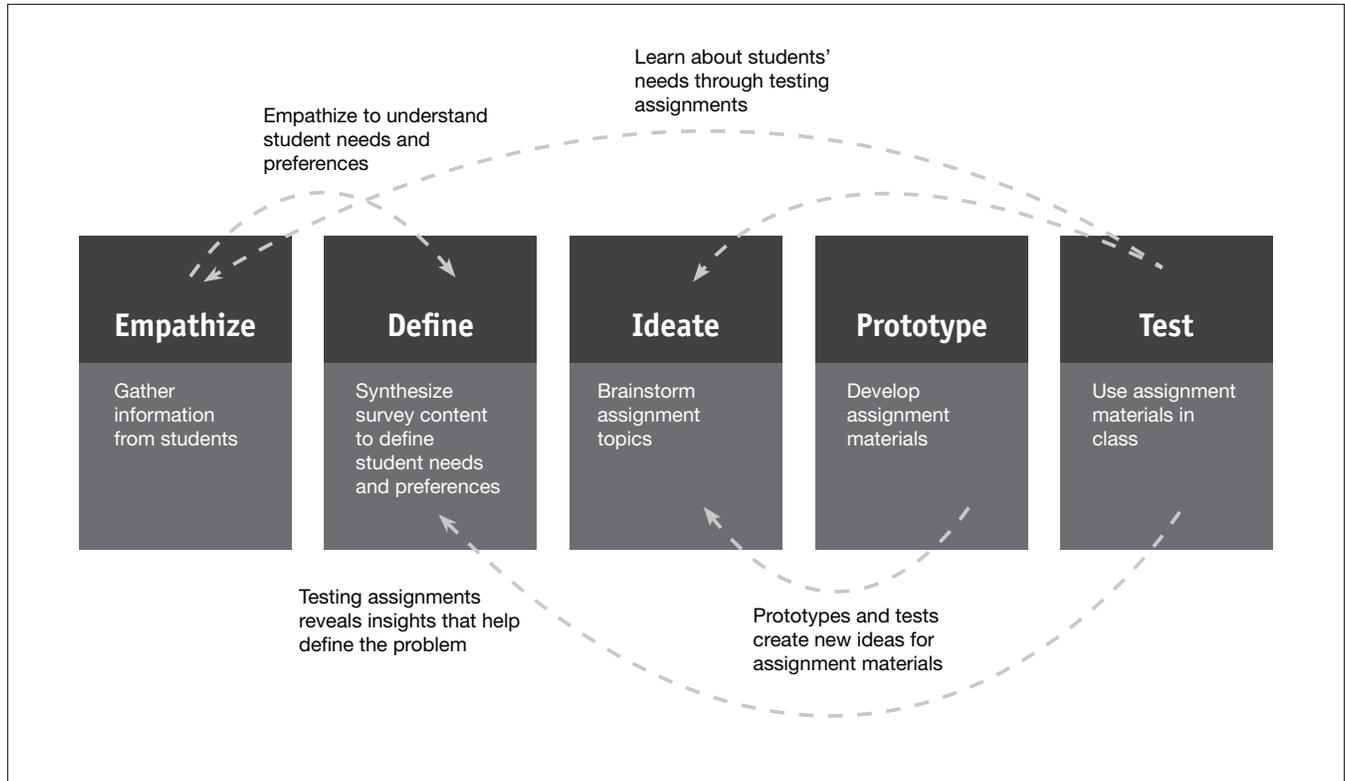


FIGURE 1. The Stanford d.School five-stage model applied to the design process for this course. (Source: Adapted from The Interaction Design Foundation (Dam & Siang, n.d.) <https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process>)

importance and value of including users as participants in the design process through the strategic use of brainstorming and data-gathering tactics (Johnson, 2016 IDEO, 2009; d.school, 2018b).

Most design thinking approaches include some version of the five-stage empathize-define-ideate-prototype-test model developed by the d.school, and I sought to employ this method (d.school, 2018a). As applied to the experimental course, the model looks like this (see Figure 1):

- **Empathize:** gathering information from students
- **Define:** synthesizing survey content to define student needs and preferences
- **Ideate:** brainstorming assignment topics
- **Prototype:** developing assignment materials
- **Test:** using assignment materials in class

The model supplied a pathway to organize the major components of the course—student input, collaboration, and assignment generation—in a way that provided structure and allowed for iteration. The five-stage process is flexible in that it can be repeated as a whole loop or between stages. In the case of this course, testing assignments co-developed with students provided new insights into their learning needs, looping from “test” to “empathize.”

Stakeholders

There were two groups of stakeholders for this experimental course: the students and me. My interest was based on investigating the value of involving students in the curriculum development process from the ground up and testing the applicability of the approach as a model that could be applied to other courses. Students participated both as user-stakeholders in the design process and as enrolled students working towards a grade.

In the process of designing this course, I had two roles: facilitator and instructor. As a facilitator, I was responsible for soliciting, aggregating, and translating student feedback into course assignments. As an instructor, I was responsible for ensuring that students made progress on learning objectives and developed their work. This duality influenced decisions I made related to how much time was spent gathering and responding to feedback (facilitator) and the applicability and value of what students wanted to learn (instructor).

THE DESIGN PROCESS

Approach to the Structure

I used several principles to guide the development of this course design. The key components of the design were:

- Utilizing design thinking as a methodology to develop curriculum;
- Involving students as user-stakeholders;
- Allowing user feedback to shape curricular components; and
- Testing and evaluating curricular materials with students during the course.

The course was a novel concept—it had not previously existed in any form and had no curricular materials at the start of the semester. All assignments were developed in response to student feedback. I designed the course to start without a subject matter so that all of the content would be based on input from the student participants. I conceived of the basic structure of the course design before it began, but other components were developed in response to student feedback and my evaluation of their level of mastery on assignment topics as we moved through the course. The customized curriculum was created in response to student feedback on online surveys, classroom discussions, and performance on other evaluative measures. My design process was largely responsive; I had an overall idea of the kinds of design thinking interventions I wanted to use with students, but I did not work from a formally written plan or schedule. I accumulated a grab bag of design thinking methods and applied them at specific points when I felt they would be valuable to students based on survey responses or what I learned in class discussions.

In terms of how student participants were prepared for this course, some design thinking methods are covered in a 300-level Human-Centered Graphic Design course, but not all participants in this course had taken that one previously. In order to start everyone off from the same platform, it was essential to teach the class about the design thinking process before we began. Specific methods were introduced as they were used.

Feedback Collection Strategies

Surveys and discussions served both as information that shaped the course content and data that would be used to evaluate the efficacy of the design. Surveys that were considered information-gathering were required course assignments and were attached to student names to track participation. This included:

- feedback about what students wanted to learn;
- identifying necessary skills; or
- determining subject/assignment priorities.

Any surveys that evaluated the course or my performance were anonymous and not required. I did not view the results of evaluative surveys until after the course had concluded.

The key tactics I employed to gather student feedback were long-form surveys assigned as homework, quick 3–5

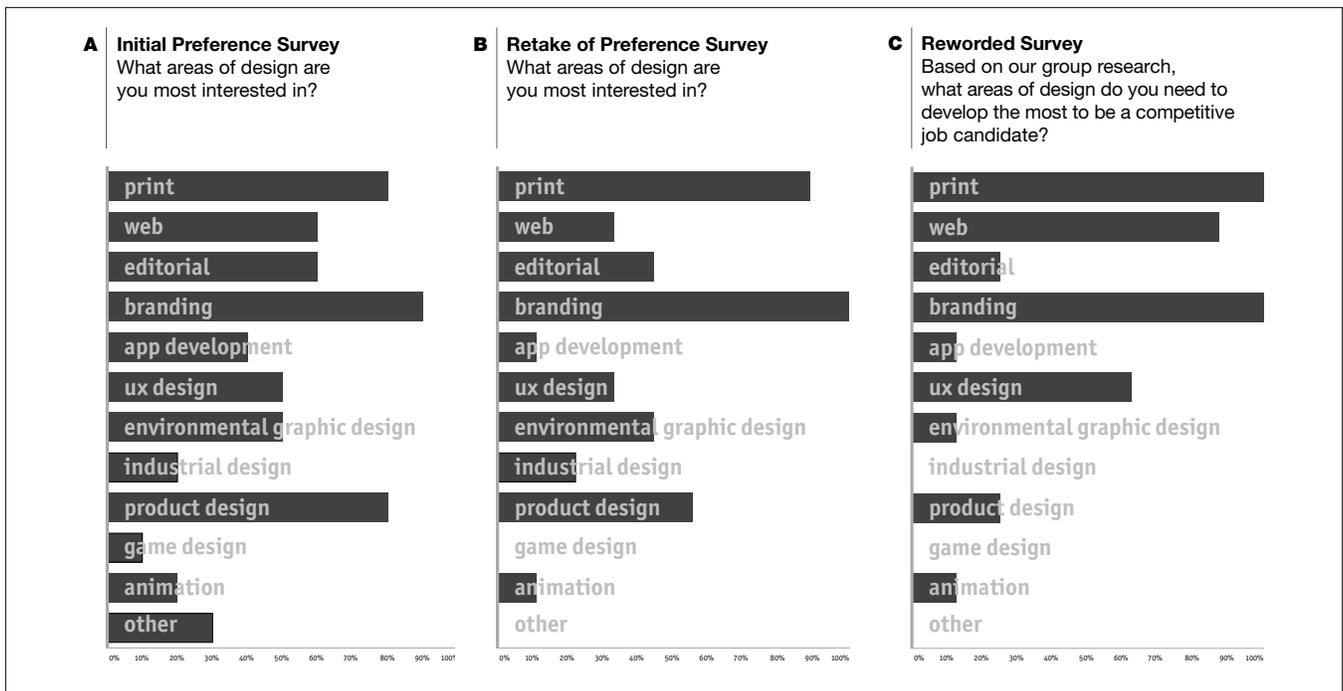


FIGURE 2. A comparison of three survey questions about course subject preferences.

question surveys meant to be completed just before class, and guided group discussions. The class was small at 10 participants, and most students had taken classes together, so there was a relative ease and familiarity among the group, making verbal discussions much easier to facilitate than among a group of strangers.

I found that discussions that began with some kind of written component did the best job of representing student thoughts more equally. I typically did this in two ways. The first and most simple method was to give students a few minutes to write responses to a prompt before engaging them verbally. Writing time allows students to compose their thoughts internally and generally facilitates richer discussions because students can prepare their answers. The other method I employed was affinity diagramming. An affinity diagram is a method of collecting answers from multiple people and gaining consensus quickly. Participants write answers on post-it notes (one thought per post-it) and then attach them to a board. Next, individuals from the group move the post-its into like categories without talking. The participants then name each of the affinity groups, which shows the general categories of concern. This is typically the most effective for forming consensus among a group and pulling unified themes from responses but can be time-consuming and requires vigilant facilitation to guide participants through the process.

Students Determine Course Topics

The subject area for the course was determined by student responses to a series of online surveys. The first 15-question

survey focused on the learning interests of the students. I wrote short answer questions with the aim of getting students to reveal what was important to them for their education. I asked what areas of design they were interested in but did not directly ask what kinds of assignments they wanted to complete. My goal was to extract responses that would allow me to identify patterns and to develop creative solutions for evolving student learning interests.

Survey questions included: "What skills do you think it's important for a designer to have?," "What are some things you want to learn while you're majoring in design at CSU?," and "What design skill would you be really proud to master?" To gain consensus, I shared the tally counts from survey responses so participants could see how their answers were distributed and help guide them to unanimous choices.

I also distributed two additional online surveys consisting of four questions to further refine responses about priorities for course subjects and skills (design-related and transferrable). Despite processing information from the initial survey during a verbal discussion, the large range of students' interests and priorities needed further refinement in order to narrow them enough to fit within a 15-week course.

I had expected the group to be more discerning about identifying curricular gaps in the major and to use this course as an opportunity to supplement content (see Figure 2, A). Based on the responses, I found that participants could be better informed about the core competencies of the discipline and the kinds of projects they would encounter as they continued in the major. In order to gain a more informed

perspective, we spent two weeks researching professional expectations for entry-level designers.

The student research on proficiencies for the profession began with a guided discussion to identify sources of information using the prompt “What do we need to learn to prepare ourselves for the job market?” I used this question because I thought by setting sights on the goal of their education, students might shift their answers to include more of what was *needed* than what was *desired*. I employed the KWHL model in a verbal discussion to help facilitate the identification of research questions and sources.

The KWHL model consists of four questions: “What do we know?,” “What do we need to know?,” “How will we find it?,” and “What have we learned?” (Visocky O’Grady & Visocky O’Grady, 2017, p. 116) Asking students to respond to these prompts about an assignment is one way to frame a process they can use when acquiring learning on their own.

I divided the class into two groups based on the sources they identified during the KWHL brainstorm. One group would be interviewing area design professionals in hiring positions, and the other would be conducting secondary research about competencies and standards for the design profession based on current job listings and articles on the topic. When their research was completed, the groups presented their findings to each other.

After the refinement surveys, information gathering, and presentations, I assigned the students the exact same preferences survey they took at the start of the semester to see if and how their answers might have shifted based on a more informed perspective.

It was here that I encountered my first unexpected result. The answers to the question “What areas of design are you most interested in?” did not shift as significantly as I anticipated (See Figure 2, B). Intrigued, I created a follow-up survey of one question rephrased as “Based on our group research, what areas of design do you need to develop the most to be a competitive job candidate?” While the students had avoided Web design and UX in previous surveys when I reworded the question to include “*need*” rather than “*want*” these items saw higher response rates (see Figure 2, C).

Creating Assignments

I used student input to guide the subject matter of assignments but wrote prompts and instructions myself. In both rounds of interest surveys, students’ primary desire for course subject matter was logo and brand development. As a result, most of the semester revolved around projects about logo development, branding, and identity application (see Figure 2). The first large project consisted of a logo project based off of a prompt from the book *Graphic Design Thinking: Beyond*

Brainstorming by Ellen Lupton (2011) that suggests combining two unlikely elements to form the basis of a business (p. 68–69).

After creating their business concepts and logos, students chose to continue working on their subject matter through an identity application project as “executing a brand across platforms” was determined to be a priority early in the semester. The final course activity based on subject preferences was a web design project based on the same brand. Thus, three projects built on one brand subject.

Before tackling branding and logo development though, one of the other early priorities identified by students was cultivating their own unique visual style. While this focus was not one I thought would be particularly valuable, I avoided redirecting the topic. I observed that many of the students in the course saw the work of professional designers with a regional or national reputation that displayed a unique visual style and perceived this to be innate (missing the years of practice it may take to develop such a specialization). They were frustrated that their work did not exhibit similarly distinct stylistic characteristics and thought that this would be the key to employment after graduation. My colleagues and I advise students to show diversity in their abilities to demonstrate flexibility and a broader range of skills as they enter the job market. In this instance, I did not share this information with the class in order to avoid influencing the students with my personal perspective. I wanted to see how the course would play out if I followed their preferences.

Involving Students in Developing Learning Objectives

I did not fully understand the motivations behind students’ desire to develop their visual style, so I realized I would need to extract more information in order to empathize with their thinking. I also wanted some means of guiding students to process the academic purpose behind their subject preferences. Rather than rejecting a topic I questioned, I sought a further explanation on student motivations by initiating a discussion with students about why they appreciated distinct visual styles and why they thought this would be a useful skill to develop. I then used an affinity diagram to process responses (see Figure 3). As a result, I developed a poster design exercise that enabled students to emulate the style of an artist or designer that they admire. I initially conceived of the assignment as a longer project where students chose three designers or artists to mimic, focusing on the exploratory component, but in a verbal discussion, students determined they would rather tackle this subject as a short exercise.

At this point, I decided to involve the class in articulating learning objectives for the assignment. The student reaction was to envy designers who displayed uniqueness—I sought



FIGURE 3. Students complete an affinity diagram exercise to identify why they were interested in visual style exploration.

to translate this to an actionable purpose. In order to merit the focus of a course assignment, students would have to explain what they would be learning. I facilitated this process through a verbal discussion based on two prompts:

- “What are the important aspects of this exercise?” and
- “What skills/knowledge does this exercise develop?”

I recorded verbal answers as a list and then had the class vote on what they thought was the most important (see Figure 4). I then translated those components into complete phrases in class on a whiteboard. I did not add any content of my own, but merely aggregated student responses. The resulting learning objectives were:

- Meeting project requirements.
- Exploring new rendering techniques and styles
- Using visual research and analysis to understand a technique or process and translate the style accurately
- Working with typographic levels and visual hierarchy
- Strengthening knowledge of color use and the elements of design
- Developing page organization skills

My approach revealed itself to be a useful tool for engaging students in assignments and modeling metacognitive thinking. I began involving students in developing learning objectives to help them demonstrate the purpose behind an assignment. The process also guided students to set benchmarks to evaluate if and how they were achieving the objectives they identified. Many self-regulated learners think this way, but analyzing the assignment together was my attempt to scaffold the process for students who may not have previously engaged in this sort of self-evaluative learning assessment. The learning objectives were also used as the basis for grading—rubrics were based on the learning objectives for each assignment.

As the class continued, I prototyped different methods of gathering student input for creating project learning objectives, including verbal discussions with answers on a whiteboard and affinity diagramming. I began by creating a draft assignment sheet with a blank space for learning objectives (see Appendix 1 for draft assignment sheet). I gave the draft assignment sheet to students to read in class and used it to inform the discussion to determine learning objectives. For a later project, I used the affinity diagramming method with a modification. Instead of using post-its to collect responses, I supplied 8.5" x 11" sheets of paper for visibility. Students wrote their own learning objectives, posted them on the

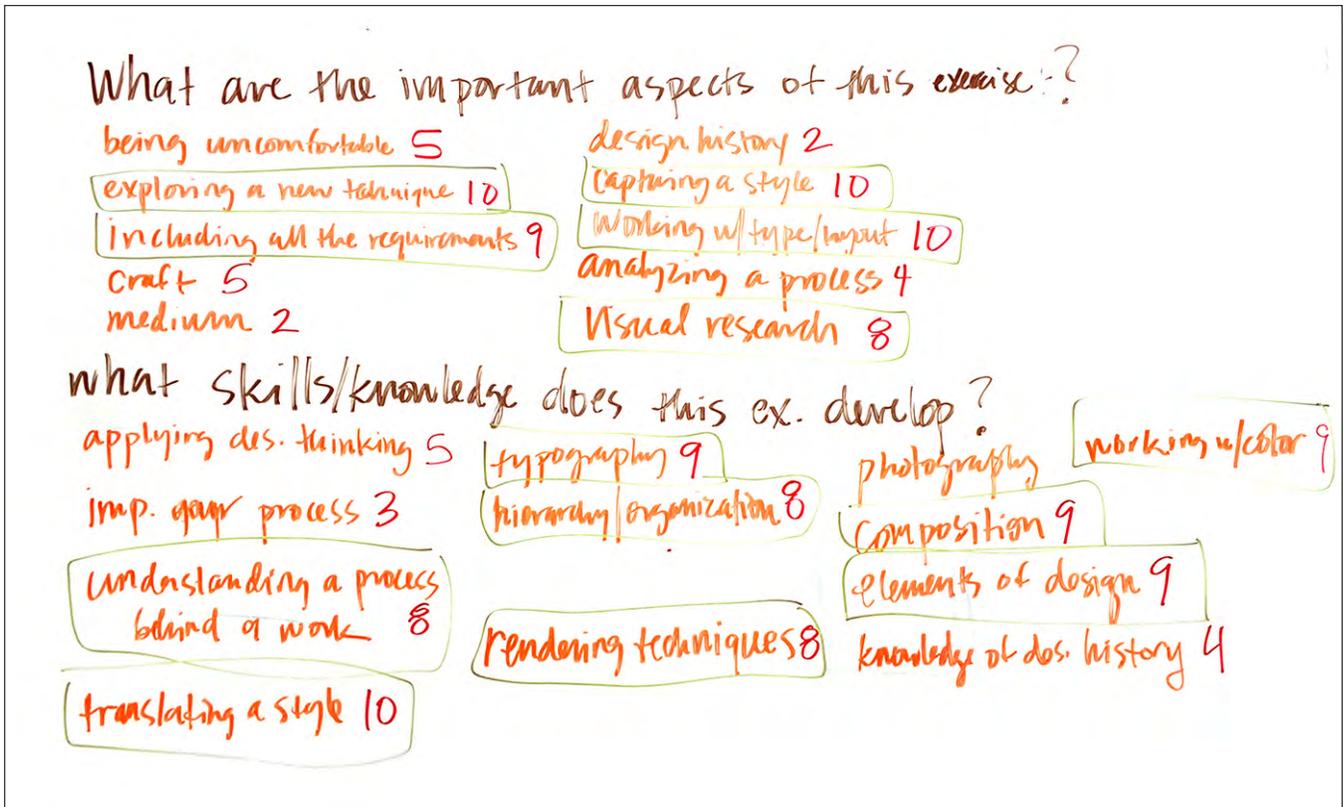


FIGURE 4. Student responses in a verbal discussion to the questions “What are the important aspects of this exercise?” and “What skills/knowledge does this exercise develop?” Numbers next to each response note votes of importance.

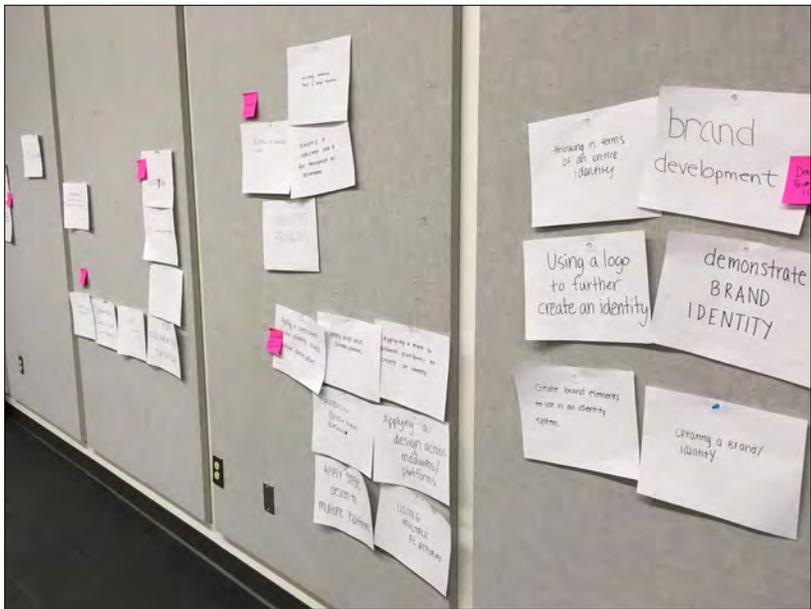


FIGURE 5. An adapted affinity diagram exercise to identify themes in learning objectives written by students.

critique board, and then identified themes by moving them into like groups (see Figure 5). I wrote these into proposed learning objectives and shared with the class on a second draft assignment sheet.

Soliciting Student Input on Grading Methods

I captured student input to potentially improve the grading process for instructors and students. If students were to influence the whole of the course, grading was a key area where I wanted to seek their feedback. I wanted to develop more efficiency for myself and meaningful results for students around the act of grading.

After a particularly productive verbal discussion about students’ thoughts on grading, I incorporated their feedback into different approaches for evaluation. The discussion began with three prompts on a whiteboard waiting for students when they entered the classroom. The prompts were:

- “How do you use final feedback on a project?”
- “What delivery methods of feedback are useful?” and
- “Would you prefer private verbal or written feedback? Why?”

Students wrote answers on color-coded post-its, and we used this to inform a verbal discussion. Most students said that they prefer verbal feedback because one-on-one verbal feedback gives them a chance to ask follow-up questions and take notes. Students did also say that they valued written feedback as a record that they could return to for revising and improving the work in the future. Overall though, the class stressed the value of individualized feedback—general benchmarks from a written rubric were not seen as useful for receiving feedback on a graded project.

After questions about students’ thoughts on grading, I veered the discussion to analyze and evaluate rubric styles based on rubrics that students have seen in our program. I projected images of the rubrics and then asked the students questions about them. One often-used rubric, developed in collaboration with colleagues and used across upper-division courses in studio art and design, outlines standards for letter grades with the student’s grade listed at the bottom (see Appendix 2 for sample rubric). This is one of our preferred methods of grading for its efficiency and provision of evaluative benchmarks. Based on verbal and nonverbal student feedback, I learned that students do not like this method of grading. Many students said this rubric format was just a means to see their letter grade—they did not read the descriptions.

I also presented a sample rubric from *Teaching Design* by Meredith Davis (2017) that paired “advanced, proficient, and developing” standards with a learning outcome (p. 132). I thought that students would be receptive to this rubric as it clearly outlined where their performance measured on a scale. The initial reception was lukewarm. Students mostly saw it as not much better than the letter grade rubric as it lacked individual feedback and required them to compare the standards to their own performance. I proposed pairing this method with individualized verbal or written feedback, and the students then viewed it much more favorably.

Overall, the students were incredibly engaged in the discussion and provided honest, measured feedback. Only once did a student preface their response with, “if I’m being totally honest” as if they had some difficulty providing this feedback to an instructor. It was a very frank, open, and illuminating discussion.

Testing Rubric Formats

As a result of student input, I prototyped and tested different methods of assessment for projects 1 and 2 using the “advanced, proficient, developing” rubric model adapted

from *Teaching Design*. I also tested two variations of providing feedback: written and verbal, as students said they valued both methods for different reasons. For Project 1, (logo development), I invited students to write “advanced, proficient, developing” standards related to each learning objective and aggregated these responses into a final rubric. I assessed students on these components and provided individual written feedback. (see Appendix 3 for Project 1 rubric) For the Project 2, *Identity Application* rubric, I simply included “advanced, proficient, and developing” without a description for each learning objective and provided brief written feedback around three evaluation criteria. I scheduled individual meetings with students outside of class time to discuss their projects in-depth. (see Appendix 4 for Project 2 rubric)

At the end of the semester, I had students evaluate both grading methods via a written form (six students handed this in) (see Appendix 5 for evaluation form). My priority as an instructor was developing an efficient method of grading that would facilitate students’ understanding of why they earned the grade given and would enable them to make revisions to projects in the future. Interestingly, all students who completed the evaluation preferred one-on-one verbal feedback to written feedback.

Soliciting student feedback throughout the course had an enormous influence on how I approached the delivery of information and facilitated student involvement. I found the process of inviting in-depth student feedback through online surveys to be illuminating and helpful. I also found it to be a useful way to immediately evaluate new techniques or approaches used in class. Creating a dialogue with students in this way during the semester—they could express thoughts through the survey platform and I could bring back my interpretation of the major themes—helped me consistently keep a closer hand on the pulse of the group.

STUDENTS’ EXPERIENCE OF THE DESIGN

I learned that students overwhelmingly valued their involvement in deciding what the course would cover and connected this to increased engagement and investment in their progress and learning. Student awareness of being included in the design process was an essential component of the success of this project, which follows existing models for user-participatory design. When asked in the final evaluative course survey why they signed up for the course, most students referenced their interest in being a part of something that might shape curriculum in the department in the future or specifically being a part of this particular curricular experiment. One student noted, “I signed up for this course because design research is very interesting to me so to be able to be a part of a study is what really drove me to sign up for this course. Also, I liked the idea that I was able to help create the curriculum for the class—I knew I would

be able to learn what I felt like I needed to learn at this point in my design education.”

After the semester concluded, I was certain that I wouldn't pursue the experimental concept of the course again: beginning with no curriculum content and developing it along the way with students. At the time, I found that the limitations—lack of students' knowledge about professional equivalencies and developing course content on the fly—outweighed the benefit. I thought I would adapt certain aspects of the course to other courses, like involving students in developing learning objectives and evaluating assignments but would not pursue this same model again. My opinion changed though as I began analyzing responses to the final survey, which consisted of 17 questions about the experience of participating in the course and an evaluation of the experiment from their perspective.

Some of the most telling evidence of students' experience of the course was in response to the question, “What did it mean for you to be involved in the process of developing this course?” Respondents used descriptors like “meant a lot,” “really cool,” and “really great” to describe their involvement. One student said, “I felt empowered by it. I knew while working on my projects that my peers and I had taken part in constructing it, and because of that I also felt that I had a better understanding of the material.” Another student noted, “It was really great because we could all to an extent choose what topics we wanted to focus on learning and choose what objectives we thought we should focus on and be graded on.”

All respondents to the final survey said that they were more engaged with this course than other design courses they'd taken. While some focused on the small class size, most answers spoke to the value of the course model and the opportunities to provide feedback. Students used phrases such as, “more involved in the process and more committed to the results,” “I realized what I was gaining from it,” and “my voice was going to have an impact on the course itself.” Two students who concentrated on the survey element said, “having class discussions and surveys makes me feel more involved in what we're doing in class,” and “the surveys to see what skills we wanted to improve really improve[d] my focus since it was what everyone wanted.”

While students self-selected to participate in a course experience of this nature, I believe their high levels of engagement can be attributed to the way in which their participation was solicited and how it manifested in the design. In other words, students could see not only that I was asking for their feedback, but that I was actively using it to shape course materials with their participation. If I solicited feedback and then did not incorporate it in a way that was clearly visible to students, I believe they would have become discouraged and may have become less engaged.

The small class size was also noted as a positive aspect in response to the question, “What components of this course would you like to see in your other design classes?” As an instructor, I found the small class size to be beneficial as well, but this was merely circumstantial and not something my colleagues or I could have control over in future semesters. It undoubtedly did have an affect though on how students related to one another and their participation in critique and class discussions. Anecdotally, I found that some students who were typically more reticent in previous courses—especially in discussions—were more vocal in this class. Of course, it's much easier to facilitate a representative discussion with a group of 10 than with a group of 20, and I may have just been more adept at soliciting participation from a smaller group.

Students stated that they felt more engaged and interested in assignments because they were able to choose what they were learning. They noted that being involved in the process of developing assignments increased motivation and a sense that their work on the projects they helped create was more rewarding. When asked “How did being involved in the process of developing this course affect your engagement with the assignments/materials?” one student answered, “It positively affected engagement because as student, you're helping with what you think you need to be improving, so assignments are created to tackle your interests.”

One of the things students overwhelmingly said was the most valuable part of the course was breaking down what became a large branding and identity assignment into discrete assignments: developing company concepts and logos first, then tackling identity elements, then creating a website. This was tangential to the main purpose of the course; nevertheless, it has the potential for application to other courses. Many students spoke directly to this benefit in the final survey—six out of nine responses to the question, “What components of this course would you like to see in your other design classes?” touched on this subject. One student said, “I liked splitting one major project into three smaller, but still large, assignments. It gave us more time to really think about what it was we were making and whether or not it was effective rather than rushing through to get everything done in time.” By developing a single assignment concept over time rather than a variety of subjects, students felt like they were leaving the course with stronger work, even though it resulted in only one portfolio piece rather than multiples.

EVALUATION OF THE DESIGN

This design problem has two artifacts. The curriculum I generated with students during the semester was not my primary objective. The primary artifact was *the process* of including students in the development of the course. My aim was to create a course that could be customized for a unique

group of participants. Thus, would this approach be replicated in the future, the curriculum could be different each time due to different user feedback. The resulting assignments became an artifact, but the goal was not simply to generate a collection of assignments with student input. I sought to assess if it would be possible to include students in creating a course curriculum and if that process could be developed into a model and applied to subsequent courses.

Productive Points of Student Involvement

I'm confident that including students in decision-making about course content can demonstrate value. Students noted that being involved in developing the course curriculum made them more engaged in the class and aware of their learning—both what they were learning and how they were progressing. In response to the question, "How did being involved in aspects of assignment development affect your learning?," one student answered, "I had a better understanding of the projects, so I feel I performed better on them."

I was encouraged as an educator to witness how adept students were at identifying and articulating learning outcomes. The process modeled a step that students don't often do for themselves: specifically reading an assignment description with the intent to take away learning objectives rather than for what expectations they needed to meet. By inviting students to read and process an assignment prompt with the goal of determining learning outcomes, it helps model the metacognitive process of assessing their learning throughout the course of a project. They are asked to consider not just if they're meeting assignment requirements, but if they're accomplishing the learning objectives along the way. In the final evaluative survey, one student noted, "it gave me a different look at learning objectives as a new focus while looking at an assignment sheet."

Because students were so skilled at this process and because they identified it as a positive and useful experience in the final survey feedback, I found it worth adapting to other courses. It's important to note that this should be a facilitated process with the response collection means scaled to the number of students in the course. With ten students, I was easily able to aggregate written responses in a group verbal discussion, but an affinity diagram method or surveys may work better with a larger class.

Student feedback on assignment subjects can be provided in ways other than determining topics. I used the surveys in this course to gather information not just about what students wanted to study, but to influence how content was packaged and delivered. As one student noted in response to the question, "Are there any components of this course you would like to see in your non-design classes?" "Completing surveys every so often to let the professor know how you're feeling about the course so far and what you wish could be different. I think it's important for their [sic] to

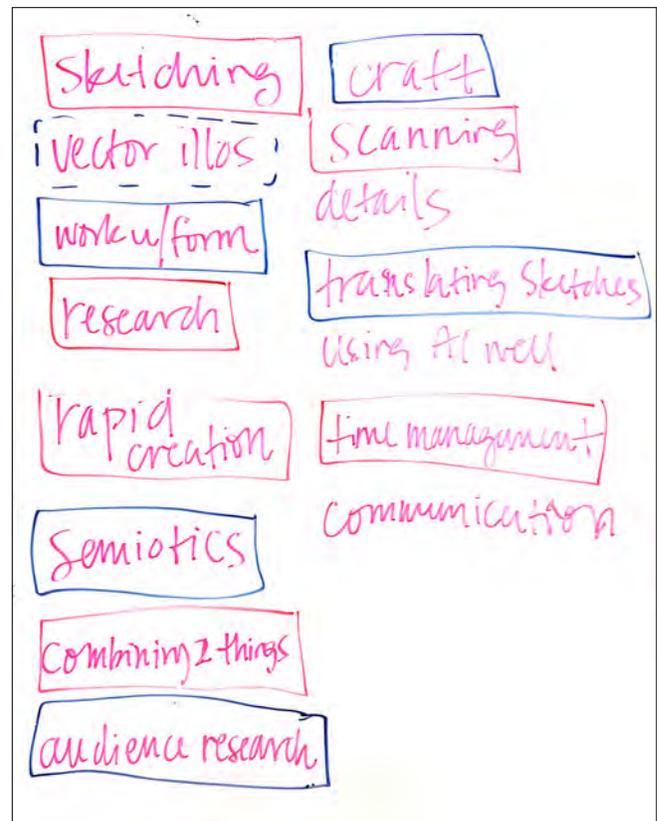


FIGURE 6. Student responses to a verbal discussion about what skills and concepts an assignment on logo development would involve. Areas where the class wanted additional instruction are circled in blue.

be more involvement from professors in the work that they are assigning to their students (if that makes sense...). I feel like it creates a more effective learning environment and it makes students more comfortable to share their thoughts and concerns throughout the course."

Asking students for feedback on skill or knowledge gaps prior to starting an assignment helps identify, for both student and instructor, opportunities for learning goals and areas to focus instruction. I found this feedback useful for developing lectures customized to course participants—especially skill-based lectures or demonstrations. For example, before beginning the logo development project, I asked students what skills and concepts the assignment would involve and on what elements they felt they need the most instruction (see Figure 6). I then used this information to find specific resources for students, adapt existing lectures and create customized software demonstrations. While I'd already developed some of this content for other classes, it was helpful to know the specific skill and knowledge gaps as identified by students so that I could monitor their mastery of these components.

After each assignment, I polled students on whether they'd like to move forward with the same subject or try something

else. For the final assignment, the votes from an online survey were almost evenly split between continuing with their current branding subject or moving on to something else. Without a conclusive result, I brought this to the class as a topic for verbal discussion. We weighed pros and cons as a group. I learned that the main concern students had with tackling a web project was what content they would use. After a discussion of what types of content would be appropriate for a business web page and a blog entry, the group chose to move forward with using the same company as a subject.

As an instructor, what was interesting and most useful to me was inviting students to discuss their reservations about assignment content. This is in line with one of the core principles of design thinking—developing empathy for the user. By understanding why they were hesitant to take on a project—it was not tackling the design, but the text content—I was able to work with them to find a favorable solution. It had not occurred to me that students would find sourcing content to be an obstacle to continuing work in which they were interested. By opening the door for feedback, I was able to remove or lessen a barrier to engagement with the assignment, which was a useful takeaway.

Unforeseen Obstacles when Allowing Students to Determine Course Subjects

In this course, I allowed students to determine all the major concepts and disciplines that would be covered over the semester. I found that this approach created challenges because the students were less adept at identifying knowledge gaps relevant to the major coursework and the profession than I expected. It may have been beneficial for me as the designer (and for student participants) to confront assumptions about the project before beginning. I assumed students knew more about what proficiencies were needed for the profession than they demonstrated in this course, which led to challenges as we worked towards creating what I expected to be novel course content.

Essentially, the students identified that they wanted to study branding and logo development, which would be covered in an existing Corporate Identity course, in which many students in the group were enrolled the following semester. The openness of subject matter was one flaw, but my reaction to student responses revealed another: prioritizing student interest over instructor expertise.

One solution may be found in how students are prompted to provide feedback. In the initial preference survey, I asked students to choose what subjects they wanted to learn from a supplied list and through short answer questions about skills and learning. Responses to the supplied lists consistently focused on topics that would be examined in-depth in future courses. Even after sharing the syllabi of these courses with students, their preferences remained the same when

asked to repeat the survey. (see Figure 2, A and B). Of course, a more controlled list would alleviate this issue in a future course. However, I found students' answers to short answer questions to be much more productive and interesting.

Additionally, in developing a survey with two answer input modes: check box and short answer, I created the potential for conflicting responses. The check box responses were the result of supplied topics: print, web, editorial, branding, etc. An approach more in line with the philosophy of design thinking may have been to write the survey as short answer only and pull themes from those responses.

I was most perplexed by the absence of clear preferences towards package design, web design, and UX methods—curricular gaps already identified with my colleagues. I assumed students would see these gaps and respond accordingly. However, their preferences hovered stubbornly around logo and brand development. My effort to correct what I identified as a deficiency was to have students investigate essential skills for the profession. Still, the preference towards branding persisted.

I repeated the preference survey verbatim because I anticipated that the research they conducted would alter students' answers and display marked and interesting changes in their answers. Answers overall, however, were remarkably consistent. While the one-question reworded survey about what subject areas students *needed* to develop (rather than *wanted*) did see an increase in responses for web and UX methods, these were not the clear preferences (See Figure 2, C). It is worth noting though that students overall were happy with the course subject matter. Nearly 80% of respondents to the final evaluative survey said that they were satisfied with the focus of this course primarily on branding/logo development in line with the preference surveys from the beginning of the semester.

It was sometimes difficult, though, to balance my observations with student preferences. Though it did appear as a marked preference in the interest surveys, the assignment topic and content of Project 3, *Identity Application: Web*, was admittedly one I pushed, as I felt students had not appropriately assessed the importance of gaining experience with web design and typography. In my dual roles of facilitator and educator, this is one instance where I gave precedence to my teaching instincts.

I imagined creating a course with student input that would address curricular gaps in our graphic design major coursework. I envisioned that students would be able to identify these gaps and that we could collaborate on assignments that covered topics not found in current course offerings. However, my expectation that their interests would overlap with curricular gaps put too much of the onus on students to drive educational outcomes. I see now that considering student interests and soliciting their input can promote

engagement, but that students aren't in a position to view the complete picture in a way that would inform their perspective to determine what's missing from their education.

Timing as an Obstacle

Timing was one of the primary challenges to building a course *from the ground up* within the semester. Because we began with no assignment content, I was responsible for developing all assignment materials—sometimes with a turnaround of one day from discussion to project launch. Adding in class time for necessary design thinking facilitation activities to get their input also presented a challenge to get in all the content students wanted to cover before the semester concluded.

As the course continued, it was difficult to avoid being influenced by the pressure of waning weeks on the semester calendar and I believe I became less open to incorporating student comments. Surprisingly, this was noted only minimally on the final feedback survey. Though 100% of respondents said they were “more” engaged with this design course than other design courses they'd taken, one respondent noted, “I felt more and less engaged. Originally, I felt really invested in the course, but as things went on and I felt like I wasn't being heard I lost interest.” While this reflects a minority view, it was consistent with my own observation.

I'd anticipated using materials from a quick-prototyping resource kit. I thought an idea for how to use these materials would come to me along the way, but as I got caught up in ensuring students were learning the components of their chosen assignments, it didn't manifest. Much of the course content was decided within the first few weeks of class based on the interest surveys. It didn't make sense to go back later and do more design thinking activities around what students wanted to learn while we were in the middle of the semester—I'd already received more ideas than I could cover in the allotted time from the original surveys. Looking back, if I wanted to use the prototyping materials with students to assess learning interests, it would have been more beneficial to design this activity before the semester began.

Unforeseen Obstacles to Process Documentation

My method throughout the semester worked well enough to build enough material to develop the course, but in terms of documentation for written analysis, there are a few changes I would make that would yield better results. All of the data collected was in the form of online survey responses, written worksheets and surveys, and photographs of in-class discussion artifacts (whiteboards, post-its, large paper sheets) I would have benefited from detailed notes from in-class discussions in addition to the photographs I took of all materials. This could be accomplished by hiring a research assistant to take notes or audio recording discussions. Any recording

requires a more stringent IRB review and was not feasible for the timeline of this project. Without research funding to hire an assistant, at the very least a student volunteer could be identified each class to record ethnographic notes. I also failed to keep sufficient notes about what was covered for my day-to-day approach and motivations. I did record notes for some class periods directly following but mostly relied on the photographs I took of every discussion board to record the process. As this was my first project of this kind, having opportunities for improvement is natural, but my analysis would benefit from recording more detailed reactions in the moment.

Some of these difficulties are related to having merely studied user-participative design rather than working through it as a practitioner. In some cases, I failed to anticipate limitations to user involvement and structure the inclusion of user data in my own project accordingly. I found that students had a difficult time identifying their own learning gaps and identifying emergent and essential skills for the profession. Looking back, rather than putting the entire course subject in the hands of students, I would have identified key opportunities for student involvement and provided considerably more structure to guide how the generated information would be included.

REFLECTIONS

My goal for this course was to prototype and test a curriculum design process that included students as user stakeholders. Creating this course was largely enjoyable and encouraging, and most of the frustrations I encountered along the way came not from the quality of student participation, but from the demands of collecting, processing, and translating student feedback quickly enough to maintain momentum in the course. As I look at how to adapt the model used in this experiment, I plan to identify specific intervention points where student inclusion will occur, rather than responding to the progressive moods and needs of the class.

One distinct benefit of the approach of involving students in the process of developing a course was how my perspective on students changed by working with them as co-creators. I was consistently awed by the students' thoughtfulness, candor, and insight. Typically, we hear responses from students only after a course has concluded through the review process. Actively soliciting student involvement and providing outputs for constructive feedback gives students a voice in the process and can reveal opportunities for expanded instruction.

Specific changes I might make to the course design are not necessarily applicable because it is not likely that I will have an opportunity to run a course exactly like this again. The curricular priorities already identified by my colleagues and I

would take precedence over an ongoing experiment of this nature. However, the experience of designing this course revealed potential methods that could be adapted to be integrated into how I teach other courses. I know for certain that due to the difficulties students had identifying curricular or skill gaps, I would not design a future course where students were able to pick course topics. However, as I work on developing this model to fit within other courses, one thing I will be focusing on is structuring the involvement in such a way that it leaves room for the interests of the participants as well as my expertise as an instructor and developer of curriculum.

The benefits of collaboration, as described by students, are directly tied to increased engagement and the ability to reframe their approach to assignments. In the final evaluative survey, students repeatedly stressed how being included in the process of curriculum development influenced their learning and engagement in constructive ways, and I have seen markedly positive effects on my teaching from engaging in this experiment with them. In the final student feedback survey, students spoke of the value of being involved in creating assignments, not just of being able to decide what the course was about. As one student noted, "I felt empowered by [being involved in the process of developing the course]. I knew while working on my projects that my peers and I had taken part in constructing it, and because of that, I also felt that I had a better understanding of the material." This reflected my own evaluation that many components of the experimental approach were useful, but that the course as a whole did not have to be replicated to reap the benefits.

The primary value I found in this course was inviting students into my design process as collaborators. Inclusion in decision-making yielded increased engagement with course assignments and the class at large. I did have an unusually engaged group—it was a small class of students who had specifically chosen to register for an experimental course—but the foundation of thought that students will be more productive learners if they are engaged in the content and assignments, is transferrable to other courses. How this is facilitated can vary depending on the course and number of students, but as I move forward with this early information, I

now feel a responsibility to include this kind of content in all of my courses.

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APPENDIX 1

Exercise 1 Draft Assignment Sheet for Learning Objectives Exercise

FALL 2017

ART 493: Design Learning Lab – Exercise 2

Project Description: **Style Wars: Experimenting with Technique through Layout Design**

Many of the designers and artists we appreciate have a unique visual style. The best do this in a way that feels consistent, but shows variation across mediums and projects. How do these designers develop a distinctive visual style? The answer in many cases is experimentation. In this assignment you will choose a style to imitate as a means to try new techniques and learn new skills.

Choose a designer, illustrator, or artist who has a distinctive visual style. The individual can be currently working or a historical contributor to the field. If you choose an artist or illustrator, make sure that their style can be translated to a type-based design.

Using the provided copy, create a poster mimicking the style of your chosen designer/illustrator/artist.

Considerations:

Give yourself a challenge, but avoid picking a style that is too demanding to imitate in the given time-frame.

Think about a choosing a style that will help develop skills on which you want to work.

Learning Objectives: **Will be developed in class as a group.**

Required Artifacts:

One 11" x 17" poster, trimmed and mounted with a 1" border.

Due:

Exercise 1 is due at the beginning of class on **Monday, 10/2.**

Schedule:

Monday, 9/18

Assignment introduction

Wednesday, 9/20

Pitch 3 potential designers/artists to imitate and narrow to 1 in class

Monday, 9/25

In progress critique

Wednesday, 9/27

Final critique

Monday, 10/2

Exercise Due

APPENDIX 2

Exercise 1 Sample Letter Grade Rubric (developed by Mark Slankard, Associate Professor of Photography at Cleveland State University)

GRADING RUBRIC: ART 342, Fall '16

A

The finished work goes well beyond the assignment, is innovative, targets a specific audience in a new way or offers new interpretations of visual cliches. The designer always turns in outstanding work on a daily basis, and supports their visual decisions with research and a conceptual foundation. They are inquisitive and attentive to design trends, critique feedback and the learning process. Their work sets a standard for other students to measure themselves against. Professional level craftsmanship.

Meets deadlines on time. Attends all classes or accounts for absences in advance, with work to show after missed sessions.

B

Turns in consistently good work but communication, knowledge or skills could be more fully developed. The project would be successful with minimal adjustment. Concepts and aesthetics are strong, if not fully realized. The designer is attentive to the learning process, and engaged in critique.

Meets all deadlines on time. Attends all classes or accounts for absences in advance, with work to show after missed sessions.

C

The finished work shows a general understanding of communication and aesthetic issues and some evidence of craftsmanship. Critique participation may be apathetic, or designer has not strived to incorporate critique criticisms and suggestions into project revisions. Meets minimum requirements of project description. Presentation and overall communication are uneven.

Meets most deadlines on time. Maintains minimum requirements for class attendance.

D

The finished work shows an incomplete understanding of the project issues, focus is not directed at the end user, consistency of style, or clear communication. Poor presentation or craftsmanship. Unengaged in critiques.

Seldom meets deadlines, or continues to show work with minimum changes implemented from one class period to the next. Poor attendance.

P1

Project One: Student Name

Book Covers:

Trailer:

Overall Project 1 Grade: (includes design & process)

APPENDIX 3

Project 1 Grading Rubric

PROJECT 1 GRADING RUBRIC: ART 493, Fall '17

Student Name

Project 1 Grade: (includes design & process)

Space for written content

Utilizing design thinking methods for brainstorming and concept development

- Advanced:** Clearly displays use of multiple methods of brainstorming and concept development during design process. Provides researched context for ideas.
- Proficient:** Uses some brainstorming or concept development methods. Research is cursory or not apparent.
- Developing:** Does not explore additional methods for brainstorming or concept development. Research is absent or not apparent.

Strengthening Illustrator skills and displaying high standards of digital craft

- Advanced:** Professional-level attention to detail, smooth curves and line-work. Pathfinder panel has been used to join/cut shapes when appropriate.
- Proficient:** Curves and line-work are mostly smooth. Some components may rely on layering white on black rather than cutting paths.
- Developing:** Issues with curves or line-work. Pathfinder panel has not been used. Lines remain as strokes rather than fills.

Developing visual problem solving skills

- Advanced:** Displays an advanced ability to reconcile opposing ideas into a single form with originality, visual clarity and wit.
- Proficient:** Opposing ideas are combined into a single form, but the execution could use additional development to achieve clarity. Form is interesting but may not display visual wit.
- Developing:** Opposing ideas are combined unsuccessfully or not at all. Form lacks clarity or originality.

Improving creative and conceptual thinking skills

- Advanced:** Shows conceptual growth, explores multiple visual directions, and clearly represents ideas
- Proficient:** Shows some growth over the course of the project and/or explores few visual directions. Ideas may need additional development to translate.
- Developing:** Shows little growth and/or explores few visual directions. Ideas do not clearly translate.

Practicing accurate form representation

- Advanced:** Form clearly represents two opposing elements.
- Proficient:** Form somewhat represents opposing elements.
- Developing:** Individual opposing elements are not clear.

Working with positive and negative space for visual impact

- Advanced:** Uses positive/negative relationships to create visual interest and represent form.
- Proficient:** Incorporates some positive/negative relationships.
- Developing:** Shows little use of negative form.

Accurately representing the foundation for a brand

- Advanced:** Clearly represents an idea that connects to the brand concept.
- Proficient:** Somewhat represents an idea that connects to the brand concept.
- Developing:** Does not represent an idea that connects to the brand concept.

APPENDIX 4

Project 2 Grading Rubric

PROJECT 2 GRADING RUBRIC: ART 493, Fall '17

Student Name

Project 1 Grade: (includes design & process)

Components that realize the brand identity most clearly:

Components that need attention:

Considerations for future development:

Explore new areas of design to broaden skills and develop creative thinking

- Advanced
- Proficient
- Developing

Strengthen formal typographic and color theory skills

- Advanced
- Proficient
- Developing

Work with typography and color to communicate brand identity

- Advanced
- Proficient
- Developing

Create a brand identity and understand how it impacts audience

- Advanced
- Proficient
- Developing

Apply a consistent brand identity across multiple platforms

- Advanced
- Proficient
- Developing

Create work within professional standards

- Advanced
- Proficient
- Developing

APPENDIX 5

Grading Evaluation Form

RUBRIC FEEDBACK: ART 493, Fall '17

The rubrics for projects 1 and 2 explored two options based on feedback from a course discussion. The Project 1 evaluation process included a rubric with individualized comments and standards for “advanced,” “proficient,” and “developing” that were developed by the class and aligned with course objectives. The Project 2 evaluation process included individualized meetings followed by a simplified rubric with three call-outs aimed at assisting future project developments and the same tiered evaluation of how the student addressed each learning objective, without detailed descriptions.

Think about how each evaluation process helped you understand the reasoning behind your grade and assess your level of achievement for each learning objectives and answer the following questions.

1. How do you measure your own learning related to class projects or course content?

2. How does grading factor into this understanding?

3. Are the grades you get on projects important to you? Why?

4. Which evaluation process was the most effective for you, Project 1 or Project 2? Why?

5. What would be an ideal method for receiving project grades and comments?

6. What would be the best way to receive your grade and comments for a final project turned in after the semester is complete?