

**Title:** Shaping graduate students' methodologies and professional values through dialogue, writing, and group projects

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**OVERVIEW**

**After a graduate seminar is recast as a mid-size lecture class, the instructor redesigns the course by replacing exams with quizzes, adding an essay assignment, and developing in-class small-group activities that facilitated dialogue and fostered critical thinking.**

**BACKGROUND**

Theory and Context of Architecture (ARCH 630) is a required lecture course in the Master of Architecture degree program. The course examines several architectural theories and considers the environment as a cultural medium and product of a socio-cultural process that expresses values and ideas. Typically the course enrolls between 50-65 students and is comprised of seniors and graduate students. Since it is the only required course in the area of theory within the architecture department, it tends to cover a lot of ground over the duration of the semester.

The primary purpose of this course is to uncover significant threads of architectural theory. I stress that no one unifying theory of architecture exists, nor should we expect one to. Rather the interrelated nature of thinking and making arises in a myriad of voices. The course aims to probe deeper into the architectural history sequence that students will have likely already taken, exploring the thought processes underpinning the work they are becoming increasingly familiar with. One way of looking at this course is that it closes the loop of the history/theory sequence. The history sequence focuses on the what, when, and sometimes why. This theory course greatly elaborates on the why and expands to the how (in a non-technical sense). In other words, the course provides students with the intellectual tools to be able to critically reflect on their own design process and articulate their own set of principles. This in turn, can be imported into their final studios, where they are expected to illustrate evidence of mature design thinking.

To summarize, the aim of this course is to make explicit the way architects have understood their own work as socio-cultural phenomena and thus provide students with the tools necessary to shape their own methodology and system of values.

I began teaching ARCH 630 in 2010 when the course structure was still in question. In previous manifestations, it was taught as a small seminar in a few sections; however, this was no longer possible due to the class size and the decision to teach it as one section. In terms of critical thinking and skill building, the lecture format has significant shortcomings. Ideally, I wanted to teach this class as a seminar centered on discussion. This posed the most significant challenge in re-designing this course - how to preserve certain qualities of a seminar in a larger lecture course.

Although coverage of a wide range of subjects and trajectories can be well suited to a lecture format, I wanted to maintain some seminar-like elements, where students can be encouraged to think critically, engage in dialogue, and take positions regarding the material. My primary goal in re-designing this course was to develop strategies that allowed me to occasionally transform a mid-size lecture class into an intimate seminar which in turn would provoke dialogue, increase student engagement, and foster critical thinking. I scaffolded the assignments to develop critical thinking skills, which in turn would improve students' performance in the final project. I also focused on developing more effective ways of assessing the quality of critical thought.

This portfolio describes the changes that I made to this course to encourage and facilitate more professor-student and student-student interaction beyond the occasional question prompt, and to move beyond the imposing atmosphere of the lecture hall and stimulate an intimate conversation where students feel free to question, defend, expand upon, and reflect on the subject matter. Finally, it describes my framework for assessing critical thought.

## **IMPLEMENTATION**

In order to increase student engagement and maximize student learning, I made several changes to the class structure during the Fall 2011 semester. These changes impacted the work that students were doing in my course, as well as how learning outcomes were assessed. Because writing is linked to thinking (I always tell my students in design studio that drawing is thinking) and is an important skill for architects entering the profession, writing took on greater importance in assignment redesign and class structure.

Previously, I had relied on a series of exams and a final project to assess learning outcomes. I retained the final project, replaced the exams with quizzes, and added an essay component as well as in-class activities to foster and assess critical thinking. Each assignment/activity allowed students to develop the skills needed to be successful in the next one.

My focus primarily has honed in on class-time structure or method and assignment design. I expect class-time restructuring to uncover more opportunities to engage students in sustained discussion - shifting from a teaching-focused model to a learning-focused model. The two primary enduring understandings I wish to develop - critical thinking and value of course content - are better positioned through carefully constructed small group exercises. Increased and better-articulated assignments will bolster the final project (which has worked quite well in earlier iterations in promoting practice and application of critical thinking skills).

### **Quizzes**

In the previous iteration of this course, I found that the exams did not do a good job assessing students' understanding of the readings. Most students relied on my class lectures instead of actually reading the articles provided. As a first step in the scaffolding process, I replaced the exams with quizzes. Rather than gauging students' comprehensive understanding of the readings, the quizzes assessed their familiarity with the texts. Students had to complete a quiz before every class based on the reading material and on the previous lecture. With these quizzes, students could also reflect on their level of understanding and use the classroom as an opportunity to raise questions and clarify their uncertainties.

I realized that before measuring or expecting some demonstration of critical thought, I needed to foster it. I designed the quizzes not only to help enhance in-class discussion (which I believe is also important for developing critical thinking skills) but also to serve as a baseline against which I could assess where students stand and what areas need more work.

### **In-class activities**

To encourage classroom engagement, I increased in-class activities. At the beginning of each class, I identified three to four students to be the "daily experts." The daily experts were required to ask questions and make comments in class and/or post their comments on Blackboard. The advantage to this arrangement over the traditional model of randomly calling on any one of the students is that it avoids putting them on the spot and allows them to respond when they feel compelled by the content and not by my whim. This served as a quantitative mechanism for

evaluating participation. To further encourage participation and critical thinking, I would pause during one of the two lectures each week and ask the students to form into ‘buzz groups’ of four to five members to work on an in-class activity. For instance, for one of the activities, each group had to consider both sides of a debate on modern architecture (one proponent emphasized increasing standardization while another emphasized the creative individual and de-centralization) and write a letter of support for one or the other. After reading out loud several of these responses, the class engaged in a debate. I did not assess the letter of support as I felt that typically this activity was sufficient to engage them. Instead of just recalling different content, this activity afforded them a chance to reflect on course content and, through a dialogue, foster critical thinking.

## **Essay Assignment**

To assess the quality of their critical thought, students had to complete an essay assignment. Students were required to synthesize several readings across the semester and develop their own perspective on these readings. Rather than summarize the content of the readings, this assignment aimed at developing their writing as well as their analytic skills. Further, it encouraged students to narrow their topic of interest (which would determine their final project) and do an extensive and in-depth analysis of that topic. Finally, the essay assignment served as a counterpart to the final project (which I describe in greater detail in the next section), which required students to apply the skills developed in writing the essay to a different medium – film. It would also absorb some of the research load of the final project since they would have already done some of the preparations in writing the essay. I expected the quality of the films to improve, as it would now be based on more in-depth analysis as compared to earlier iterations of the assignment.

I used a peer-review process to assess this assignment, and I set this up through a program called [SWoRD](#) (Scaffolded Writing and Rewriting in the Discipline). SWoRD is an online tool that facilitates a balanced, reciprocal, and anonymous peer review process. Students were required to read five students’ essays and then grade them based on the rubric that I provided and modeled in class. To ensure that they all had a common understanding of the items in the rubric, I first used the rubric to assess a sample essay. Students were also required to provide feedback on each of the five essays. The final grade on the essay assignment was partly based on the writing of the assignment and partly on the assessment that the student provided to his/her peers’ assignments. For instance, if a paper got a similar grade from four students but a very different grade from the fifth student, then the latter was more likely to get a lower grade on assessment. In other words, the assessment grade was based on consensus. Students then had a chance to reflect on their peers’ feedback and re-submit their essays, which would then get re-evaluated. Any student who felt that the system wasn’t working for them could opt-out of SWoRD and instead have me evaluate their work (my grade always over-ruled their peers’ grade for such cases). Even though I did not grade all the papers, I read all of them and randomly graded some of them to ensure that my evaluations were in line with students’ evaluations; overwhelmingly they were. I specifically used this peer-review process as another opportunity to enhance critical thinking and writing skills. I, like the writer Jorge Luis Borges, believe great writers are first and foremost great readers. I expected the quality of student work to increase according to the criteria of the rubric after using it several times while evaluating on their peers’ work.

## **Final project**

Working in teams of four, the final project for this course was to create an eight-minute digital narrative based on a careful reading of a work of architecture as well as the intentions of its creator within a specific theoretical framework. The project was divided into four parts; subject, script, short film, and reflection. Students submitted these parts throughout the semester. The focus was on practicing skills of analysis, application of concepts, and the ability to place the narrative within a robust theoretical and historical context (see rubric). This assignment instilled in the students the value of theoretical discourses in the making of architecture as cultural artifacts and allowed them to illustrate their critical thinking skills while building relevant graphic and digital skills.

I retained the final project, because it provided an opportunity for students to reflect on and integrate various theories while demonstrating their critical thinking skills. However, as mentioned earlier, I expected the quality of the final project to improve with the scaffolded design – more specifically, I expected students to have a narrow, in-depth, and critical analysis of the selected theoretical perspectives.

## STUDENT PERFORMANCE

Although it is difficult to quantify changes in student performance compared to previous course offerings (largely due to the fact that many aspects of the course changed as well as the methods of assessment), in general I perceived significant benefits to student learning. Specifically, the quantity as well as quality of in-class discussions improved dramatically, resulting in increases in the demonstration of critical thinking skills. It also made the course more fun, for me as well as the students.

The **quizzes** positively impacted familiarity with course readings as demonstrated by increased student participation in class discussions and more direct references to the assigned readings.

The **essay assignment** proved to be a valuable exercise in terms of preparation for the final project, as well as a demonstration of critical thinking skills. Essay theses were expected to draw from course readings; however, in the case of the stronger essays (see links below)- which were exceedingly frequent - thesis topics tended to transcend the specific framework of course themes to forge new intellectual discourses. In many cases, students demonstrated the ability to move beyond absorbing and re-presenting existing theories to synthesizing course content within their own theoretical constructs.

Essay 1

Essay 2

The intellectual content of the **videos** tended to be uniformly higher than in the previous iteration of the assignment. Students frequently demonstrated a thorough understanding of the theoretical lens through which they interpreted the chosen work of architecture. In one particular case, students were able to understand the work of architect Louis Kahn through three distinct and surprisingly nuanced perspectives drawn from class discussions, all the while imbuing the work with a very approachable and humorous character. In another example, through carefully composed original and borrowed footage, a minimal amount of text/narration, and a well-choreographed musical complement, students were able to argue convincingly and emotionally that the work of architect Eero Saarinen signaled a new trajectory in the ever-expanding canon of Modernism. Their work attempts to pull back the curtains of dogma to reveal a more humane understanding of Modernism. While intellectual rigor increased, technical execution remained constant or, in some instances, declined. I believe this was due to the two projects competing for students' limited time resources. In the future, I intend to increase the extent to which the two projects are scaffolded to build upon their successful cooperation while reducing conflicts.

Link to course website

Taking the combined student performance in the essay assignment and film project coupled with the demonstrated engagement in classroom activities, it is clear that students completed the course with a much better understanding of theoretical constructs relevant to future practicing architects, as well as a firmer understanding of the purpose of theory, or "what it is good for." In this regard, students have frequently met or exceeded my goals for the course.

## REFLECTIONS

Increasing application and demonstration of critical thinking skills is essential for future designers and problem solvers. Knowledge of existing theoretical concepts in architecture provides students with a valuable framework for addressing a variety of problems. In turn, the ability to synthesize this knowledge will provide students with the tools to formulate a specific set of principles guiding their own work. This fundamental skill is often applied in the design studio without any explicit cultivation. Yet, guiding principles, convictions, and critical positions are necessary to instill in future architects if we wish to advance the state of the discipline.

One of the most important benefits that came out of this course redesign was that students began conversing with each other more. It was not as instructor-heavy as a traditional lecture course and incorporated student-led discussions that are more common in intimate seminars. This redesign allowed the course to be more learning-oriented rather than instructor-oriented.

While I was happy with the students' performance in the various assignments and activities, I still believe that I can make some changes for the next iteration. These changes are informed by the results of a survey that I asked students to complete at the end of the semester. The survey asked students to rate various aspects of the course (for instance, the value of lectures, SWoRD peer review system, buzz groups, quizzes). Students indicated that the lectures, essay, and film project were the most beneficial to their learning. The readings were viewed somewhat less favorably, likely due to the amount of reading involved (I may reduce in future offerings). The lowest scoring elements were (in order) the buzz groups, SWoRD, and finally, the quizzes.

Based on the survey responses and my own observations, I have planned the following changes for the next iteration of this course: The quizzes need to be refined a little more so that they assess students' familiarity with the content (versus how much they understand the content). Since this is the first step towards developing critical thinking and writing skills, I want it be less overwhelming and more accessible. I will retain the in-class activity (forming buzz groups) as it improved in-class discussion and allowed students to engage with the readings in a more critical manner. However, I think it will be necessary to bolster their effectiveness in order for this to be a meaningful aspect of the course.

As for SWoRD, I was fully aware that it could be controversial; students typically do not react positively to grading each other's work. Some students felt that the quality of the writing that they had to read was low, so they presumed the people who were reading their papers were also poor writers and could not really assess how good their paper was. In spite of this, only two out of 65 students asked me to grade their papers (and overrule their peers' feedback). Further, given that my grades were almost entirely consistent with students' grades, I believe that this process is efficient and that the benefits of SWoRD outweigh its shortcomings. I intend to implement it again in future offerings, perhaps in a slightly modified form.

The essay assignment was useful in that it allowed me to assess students' critical thinking skills and helped them provide a more in-depth analysis of their topic. However, it also overstuffed the course and made it more overwhelming for students. Moreover, since students completed the final project in groups, the individual essay assignments couldn't easily be used as a platform to

develop their videos. In spite of providing an in-depth analysis of their topic in the essays, students could not use this analysis for their final project. Next time, I plan to give the essay as a group assignment so that it is more effective in serving as a research component to the final project. This would allow students to create their film by building on the ideas that they developed in the essay.