

## VINCENT HUI | TEACHING PHILOSOPHY: THE FIVE P'S OF PEDAGOGY

My teaching philosophy has evolved over my years teaching a broad spectrum of courses (ranging from the highly technical such as Structures and Building Construction to more subjective design studios) at multiple institutions (the University of Waterloo's School of Planning and School of Architecture, and Ryerson University's Department of Architectural Science). My fundamental objectives in teaching are to make material accessible, relevant, and valued by students. Though these objectives may be addressed in a multiplicity of ways, I have tried to categorize them in a clear order of methods over the past decade. During that time I have developed a philosophy that I have dubbed the "Five P's of Pedagogy" which serve to frame the conventional learning sequence (that of objective, application, thinking, and learning) within a larger perspective of the Professors, the Projects, the Profession, student's Peers, and their Personal development. This model has been invaluable as I have developed my teaching and I have been fortunate to share this with other educators around the world including the OECD and ICERI. I teach courses the way I would have liked to have been taught when I was a student. Only when I was in my upper undergraduate years did I begin to understand the progression of knowledge-building within a curriculum based upon clear definitions of learning objectives, witnessing and participating in relevant application, thinking of alternative solutions, and ultimately learning enough to be able to dispense the material to others. Though this traditional model works, I have found that in light of rapid changes in the mindsets of current students, it is imperative as educators to reframe our delivery of material within a greater context that supplements this traditional model of teaching. The Five P's approach has been critical in assessing the experiential learning capacity of my pedagogy which addresses contemporary students' learning goals.

### PROFESSOR

The first perspective within my teaching philosophy is that of the professor. I believe that it is imperative for professors to provide clarity, accountability, and transparency in pedagogical goals. In order to do this I have been explicit in my rubrics and course outlines to ensure students are aware of what gets rewarded (and ultimately learned) in evaluations.

As a professor I have put a great deal of encouraging active and engaged courses both within the classroom and outside. In my lectures I have brought demonstration models requiring student volunteers (i.e. ASC203 Structures demonstration tools) while encouraging questioning of everything I present to them. I go out of my way to ensure that I memorize each student's face and name so that I can call upon any of them to help out or address specific questions. That little bit of effort on my part ensures that students continue to feel engaged with me as the professor. I have also maintained this level of engagement beyond the classroom as the projects I have presented typically provide additional incentive (i.e. many of my projects in my courses can be adapted by students for submission to design competitions) which often keeps students' minds engaged with the course material (i.e. the success of many Ryerson University, Architectural Science students in international design competitions such as INDEX, Extreme Redesign, Winter Stations, and CitiesAlive stem directly from projects in the ASC755 course).

From the Professor frame, I must ensure that I am accountable for the material that I teach. I cannot be dated nor can I simply be content re-presenting material each time a course is taught. Bringing leading edge research and relevant industry contexts is imperative for a charged learning environment. Whether demonstrating structural assemblies with cardboard bridges or bringing in innovative leaders in the industry (i.e. in ASC755 I had Maide Inc.CEO, Oleg Kostour present the universal iPad 3D modeling interface) in the classroom, I have facilitated integration and application of an ever-changing body of knowledge to future members of the AEC industry. At the same time, I must be accountable to students' needs. This is where feedback loops are critical in my dispensing of course material. As a professor I have ensured that there are multiple channels students can offer me feedback including online discussions (i.e. the [ASC820 Option Studio Blog](#)), comments on the back of assessments (i.e. ASC203 weekly In-Class Assessment checkup questions), and more conventional methods such as office hours and email. To think that a course as I envision it would be the best way to deliver material is ridiculous. Teaching engages multiple agents and if I cannot gain periodic insights on methods of improvement, then the full potential of the classroom is compromised.

### PROJECT

The second P in my teaching philosophy deals with looking at the projects and methods of evaluation and how they can be molded to cater to enhancing students' learning rather than simply "going through the motions" of a process. I believe that a good teacher creates engaging exercises for students to demonstrate the desired learning. Following upon the clarity on evaluation criteria outlined in the first component (Professor) of my teaching philosophy, I believe that good teaching requires explicit follow-up on what was submitted. If this is not provided, the learning is quite stunted once a grade has been issued. Unlike some of the technical classes I have teach (such as ASC203 Structures I where I post up the correct answers to objective questions), I make it a point to provide follow-up feedback. In studios I have used online tools (i.e. [ASC401 Studio](#)

[Blog](#)) and offline modes such as post-review discussions. I have also utilized recorded audio commentaries (i.e. ASC714 MP3 commentaries) and posted them online so that students could look at their work and listen to the review after the marks have been submitted. To think that the projects in a course are discrete is dangerous. I have done my best to ensure that feedback is both accessible and available quickly so as to ensure that the subsequent projects may build upon previous material. Without reasonable feedback, the subsequent project work will be compromised.

In developing projects for my course, I have made it a point to design projects that are attractive and relevant to today's student. Not only have I tried to make projects that have connected into larger competitions, but I have also utilized some of my research initiatives to create an innovative platform for student work. The *Arch-App* was developed in the ASC755 Digital Tools course which effectively allowed users to transform their cellphones into an architectural database that used geo-location to determine the most relevant data on a landmark in the real world. With the success of the historic data incorporated in the *Arch-App*, I decided to use the platform for the ASC203 Structures I course. Students were encouraged to go out into the city and conjecture how buildings were structurally supported, document the as-built conditions, and create a 3D model of the base components and bays. This project on its own would be a worthwhile exercise, however it became incentivized by the fact that reasonably well done projects would be uploaded onto the *Arch-App* and made available to everyone who used it. This not only improved the quality of what was produced, but also spurred students to inquire and investigate the assemblies beyond generic and superficial precedent studies. Similarly I have found ways to develop projects that aligned with various experiential learning activities including design competitions (e.g. Extreme Redesign and Steel Structures Education Foundation competitions) and exhibition activities (including the Toronto Design Offsite and Winter Stations events) in the city.

## **PROFESSIONAL INDUSTRY**

For many educators, the key to successful teaching is to ensure students are able to learn the fundamental skills to proceed into and excel in professional practice. Though this is important, I believe that good teaching ensures that students understand how the material presented in a class facilitates their professional growth. As educators we should see ourselves as more than simply technical skills dispensaries; we must ensure that students can apply, think, and understand the repercussions of their actions.

Given my background in the AEC industries and my relationships with prominent members of research networks, it is important for me to bring these resources to the classroom. Ryerson University has a blend of academics and practicing professionals in its faculty roster which provides excellent opportunities to bring examples of the real world into the classroom. In many of my presentations I have been able to draw upon local examples and material clipped from the news headlines to make concepts relevant to the real world. While bringing real world examples, I found that students really take course material seriously when they understand the liabilities and fallouts of the decisions they make. Whether it is bringing in tragedies (such as the Sampoong Department store collapse in ASC203) or real life research experiments gone awry (such as the Milgram Experiment in ASC755), students take pause realizing that there are implications for poor attention to detail, inability to understand course material, and compromising the translation between intention and production. Taking advantage of Ryerson University's location in Toronto, I have been fortunate enough to embark on experiential learning opportunities including not only bringing guest reviewers and industry speakers, but bringing my students to construction sites (i.e. bringing ASC620 Integration Studio II students to the Trump Tower construction site) and precedent projects (i.e. bringing ASC820 Option Studio students to circus arts training or culinary school facilities) for ethnographic research.

I have also been a proponent of carrying out workshops and seminars that would supplement students' interests in specific topics. Often material cannot be covered with any great depth in a single lecture. As a result I have been fortunate enough to host workshops with organizations to cultivate a higher level of education in the department. These workshops have brought in internationally renowned agencies (including Live Architecture Network and Monika Wittig) as well as notable professionals from around the world (including Han Dong from Kengo Kuma and Associates and Carlomaria Ciampoli from SOM's parametric research division). The multiplicity of connections to the real world from academia must be made to encourage students in participating in a productive learning environment.

Most recently, I have developed and implemented the Architectural Science Co-operative Education Internship (ASCEI) program within the Department of Architectural Science. Currently in its second year of operation, this initiative has gone beyond simply ensuring students apply their knowledge from the classroom into the workplace, but also brought professional practice insights into the classroom. The ASCEI model has been met with a 100% placement rate and extremely positive responses from industry and students alike. With the support from the Co-operative Education Office, this nascent program has

already gone beyond adoption by the region's notable Architecture, Engineering, and Construction firms but has expanded into firms in Asia and Europe. The framework of the ASCEI has also been so successful that it serves as the basis of the new co-operative education program in Ryerson University's Business School.

## **PEERS**

Teaching is not solely a relationship between an instructor and an individual student; good teaching environments cater to the reality of collaboration and teamwork. In my teaching I have done my best to ensure that casual, group, and team projects are available to drive learning. During my teaching career I have found that students are their own harshest critics which is why part of my assessment in certain projects mandates others' contributions to an individual's learning. It is interesting to see what students identify as difficult and challenging and these issues surface when they evaluate each other. For example in the ASC755 course, there is an assignment where students design and fabricate a lamp using the laser cutter. Additionally the students must create another two copies of the lamp, create instructions, and package the contents in a single envelope so that two other groups may assess the lamp design on dimensions of creativity, ambition, craftsmanship, and articulation of assemblage. This is exceptionally useful as the feedback that I typically offer as an instructor is often validated by the comments made by other students. It also serves as an opportunity for students to push each other in creating better projects as everyone effectively becomes an expert on the project and therefore is entitled to their criticism of others' works.

I have found that group projects are most successful when the collective sentiment is an enjoyable learning experience. In the context of the final ASC755 project, students form into groups of 6-8 to create a prototype of an installation proposal for Nuit Blanche. Unlike other group initiatives I have witnessed while I was a student, I found that issuing group projects with a collective ambition and goal yields not only excellent work, but the process and discussion among the members tends to be extremely positive. Similarly in the ASC203 course where I had students make cardboard bridges to support the entire team, students would invest a great deal of time in creating mockups and tests late into the night in order collectively support a clear outcome. That there was a level of friendly competition among the groups certainly had a positive influence as well. Group work does not need to be confrontational or uninspiring. I believe teaching must use group assignments however it is incumbent on instructors to ensure that these projects support a positive and mutually beneficial learning environment.

## **PERSONAL DEVELOPMENT**

I believe students genuinely wish to learn when they are in university. We must cater to the diverse needs and learning styles of today's student population. Often poor incentive drivers, access to resources, or clarity in application serve as obstacles to personal development. My teaching philosophy has embraced methods of addressing these issues in any type of course I have been assigned.

One of the most important things educators can do is to remain sensitive to the diverse methods of learning students currently utilize. Books and lectures are no longer the only method of acquiring information. In an era of rapidly accessible data from around the world, it is often difficult for educators to continue to dispense with teaching in competition with such resources. I believe that new media channels allow educators to adopt what is available and cater to contemporary student learning models. For example while teaching many of the upper year digital design courses in my first year at Ryerson University, I found that there was a huge variability in the base computing skills in the student body. As a result, the next year when I was hired to RFA and assigned the ASC101 Communications Studio, I took it upon myself to create a series of online tutorials that instructed students on how to use programs ranging from the Adobe Suite (i.e. Photoshop, InDesign, and Illustrator) to complex rendering and modeling programs (VRay and Rhino). Coordinating with the first year studio master, I was able to ensure that students learned at their own pace (given the high learning curve with computing, this was a great resource students could go through on their own) while simultaneously maximizing studio time for design discussions rather than technical troubleshooting. Though there were no metrics for evaluation, anecdotal evidence would indicate that there has been an exceptional escalation in the digital competencies of the students in the past three years. I have found that conventional projects adhere to the adage: "*what gets rewarded gets done*".

My teaching philosophy encompasses a desire to make material accessible, relevant, and valued by students. I believe these objectives are addressed within my courses As outlined in my five dimensional pedagogy, I believe I have framed my teaching in a way that accomplishes those three major components in the context of professorial, project based, professional, peer-focused, and personal development lenses. More importantly, these pedagogical dimensions have been essential as a framework for developing my approach to experiential teaching.