Cal Poly CAED Interdisciplinary Competition

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In an effort to promote relationships between Construction management students with other majors in Cal Poly’s College of Architecture and Environmental Design, an interdisciplinary competition should be encouraged. Targeted towards second-year students, an interdisciplinary competition will provide valuable experience in competition environment, while establishing relationships with students in other majors. Each team member will learn more about the other professions and the issues affecting their work. Conducted over an academic quarter (10 weeks), students will be presented with site information and strategic development plan materials to support the effort. The teams require participation and input from architectural engineering, architecture, city and regional planning, construction management, and landscape architecture students. The deliverables are to include concept master plans, interior designs of a significant space or spaces, architectural program and building designs, landscape design and inventory, and documentation of pre-construction services.

Key Words: interdisciplinary studies, competition, architectural engineering, architecture, city and regional planning, construction management, landscape architecture

Introduction

In the construction process, collaboration between a team of professionals in the fields of architectural engineering, architecture, city and regional planning, construction management, landscape architecture and others is essential for a successful project. A good working relationship and understanding between these individuals of different professions is a catalyst for a timely and uncomplicated completion of a project. Typically, those in differing professions often have differing opinion on ideas and methods to accomplish a specific task, which may cause conflicts to arise. These conflicts can lead to changes in scope or design rework and eventually project delays, which will negatively affect the construction team as a whole.

In the construction management program at California Polytechnic State University, San Luis Obispo (Cal Poly), there is minimal collaboration between its students and those in the College of Architecture and Environmental Design (CAED). The current construction management curriculum offers a few classes that keep construction management students involved with architectural engineering, architecture, city and regional planning and landscape architecture students. Additionally, the CAED does not offer many extracurricular opportunities that promote interdisciplinary studies in an effort to create relationships between these students. Those who go through the CAED programs can acquire their degrees and enter the industry without making significant relationships with the other majors.

Creating opportunities for students in Cal Poly’s CAED to interact and develop relationships with one another is essential so that they will establish understanding of students in the other majors. By the time these students obtain their degrees and enter the workforce, there will be an easier transition on how to work with those in other professions. One method to promote this collaboration would be to offer an interdisciplinary competition within Cal Poly’s CAED that would offer benefits to those participating. Similar to the ASC regional competition in Reno that is offered to construction management students, an interdisciplinary competition will allow those involved an opportunity to understand each team members thought processes and opinions. Such a competition will be intended for CAED majors in their second year so that they can hopefully continue relationships with those on their competitive teams, while still having enough knowledge in their respective fields.
The Process

The first step in creating an interdisciplinary competition was to review other existing competitions involving interdisciplinary studies at other universities across the United States. It was important to understand how these competitions were formatted to allow students to effectively gain the most from these experiences. By using examples from existing competitions, a conceptual interdisciplinary competition can be created and tailored for Cal Poly’s CAED. The Urban Land Institute (ULI) Hines Student Competition, Witters Competition at the University of Florida, and the Interdisciplinary Case Competition (ICC) at the University of Michigan-Flint had the most impact on the design of the Cal Poly CAED Interdisciplinary Competition. The ULI Hines Student Competition, entering its 16th year, offers graduate students the opportunity to form their own multidisciplinary teams and engage in a challenging exercise in responsible land use. Student teams representing different universities comprise of at least three disciplines have two weeks to devise a comprehensive design and development program for a real, large-scale site full of challenges and opportunities. The Witters Competition is a college-wide interdisciplinary academic competition at the University of Florida that fosters better understanding among design, construction and planning students. Similar to the ULI Hines Student Competition, the Witters Competition is composed of student teams from different disciplines throughout UF’s College of Design, Construction and Planning, as well as engineering students. From the competition’s website site: “As each student on the team provides input regarding his or her part of the project, the team learns more about the other professions and the issues affecting their work. Lastly, the Interdisciplinary Case Competition at the University of Michigan-Flint brings together undergraduate and graduate students across campus to form interdisciplinary teams. Each team is asked to develop a solution to an issue currently impacting corporations on a global level. Compiling aspects from each competition allowed me to understand what formatting, proposals, evaluations, scope and considerations were needed for a competition tailored for Cal Poly’s CAED.

I was also recommended to reach out to Matt Construction’s president Charlie Mallers, who is also the president of the Foundation for Interdisciplinary Studies (FIS). The mission of FIS is to create meaningful impacts in the lives of students through expanding access to interdisciplinary programs and experiences in the College of Architecture and Environmental Design at Cal Poly San Luis Obispo. Committed to promote interdisciplinary construction in the education system at Cal Poly and industry, Charlie gave me the idea of creating a miniature Reno competition at Cal Poly. He believes that each of the majors in the CAED have become too isolated from each other. When he attended Cal Poly, students in the CAED were all placed in the same major and then branched out to more specific fields in their upper division classes. This education system allowed Charlie to develop strong ties with students in the college first, even if they went on to focus on different professions.

Charlie encouraged me to attend the first FIS symposium, which current students and industry professionals were also present. The symposium established that students need to have an integrated approach to their studies from the beginning. Professionals emphasized that open communication at all levels of construction and developing trust and empathy for others is essential to the success of a project. From the discussions at the symposium, it was understood that it is imperative that students must develop these relationships earlier in their studies. That is the reasoning why an interdisciplinary competition should be intended for students in their second year of their college careers. Not only will they gain valuable experience in the competitive field, students will still have time to develop further ties with those in other majors.

Deliverables

The deliverables of this project-based project are as follows:

- Create a proposal giving an understanding on what the competition will entail.
- Develop an evaluation on how the competition submissions will be scored.
- Establish a format on what submissions from student teams would entail.
- Establish scopes and considerations for each specific aspect in submissions, respective to students’ majors.
- Comprise a conceptual challenge proposal tailored for Cal Poly’s CAED to give insight on what a challenge problem would entail.
Lessons Learned

The most important lesson learned throughout my senior project process was how highly perceived interdisciplinary studies by industry professions. The lack of opportunities offered by Cal Poly’s CAED to promote collaboration between multiple disciplines is a serious issue facing students going through the college’s programs. It is imperative the college develops more ways for students from different disciplines to collaborate and develop relationships. While an interdisciplinary competition is a viable option to accomplish this task, there are other methods that could work as well. Simply creating enjoyable and interesting events for the different disciplines in the CAED can create the necessary bonds that these students must have to create an easier transition when beginning their professional careers. Architects, engineers, construction managers and city planners should develop empathy for other professions so that the collaboration in construction teams can lead to highly successful projects.

When creating each scope of a conceptual interdisciplinary competition, it was important to understand the level of knowledge potential student teams would have. Because the competition is targeted toward second year students, the level of difficulty of a challenge proposal could not be too complex. I was able to learn more about the CAED majors, other than construction management, and know what students in these respective majors could handle. The process of creating an interdisciplinary competition exposed me to the different aspects of the majors in Cal Poly’s CAED.

Future Endeavors

The next step in the process of a Cal Poly CAED Interdisciplinary Competition would to make it a reality. Several tasks would have to be accomplished in order for a competition of this nature to be established within the CAED at Cal Poly. First, understanding student interest in this competition would be an important factor to know if it would be popular amongst architectural engineering, architecture, city and regional planning, construction management, and landscape architecture students. Individual student surveys by major should be sent out to understand the interest between the majors.

In an attempt to increase popularity of an interdisciplinary competition, finding funding to award a scholarship prize to the winning team may convince more students to participate. After attending the FIS symposium, it was established that industry professionals were interested in assisting in any way they could. Confronting these professionals and their companies to gather funding to award a winning team with scholarship money may encourage higher student participation. This could be factored in the student surveys as well to understand if a scholarship award would be convincing. Furthermore, by involving industry companies in a competition like this, networking opportunities would be available for students looking for jobs and internships.

Lastly, finding creative ideas to introduce new challenges for each new competition is essential. In order for an interdisciplinary competition to continue, challenge proposals would have to be developed to ensure fresh ideas from student teams. Seeking advice from Cal Poly professors in the respective majors and industry professionals would be a good source to find new challenges.