An International Cross-disciplinary Student Collaboration: A Retrospective Nine Years

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Introduction

This Student Collaboration between Ryerson University, Canada and Coventry University, UK started in 2010. To date, a total of 298 students from the two institutions.

Prompted by our realization that in the present-day context of an increasingly globalized world (the construction industry is no exception), we as educators need to teach our students skills to enhance their employability - ability to work collaboratively with distant peers from other related disciplines.

We were inspired by 2 earlier reports from The Royal Academy of Engineering, United Kingdom:

Educating Engineers for the 21st Century" *(RAE, June 2007)*
"Today's business environment demands that engineers must have the ability to work in globally dispersed teams across different time zones and cultures."

"Engineering Graduates for Industry" *(RAE, February 2010)*
"Academia must supply graduates with skills that ensure their "employability"

(Loughborough University, UK participated in 2013 one time only).

Introduction

Like many other industries, the construction industry is primarily profit driven. Where goods and services can be sourced less expensively elsewhere, it will.

Where sourcing of less expensive goods is obvious, we are also seeing elements of design works being awarded competitively regardless of locale. For example, it is no longer uncommon to have the architectural and engineering design works carried out in different offices located in different countries.

In such instances, it is imperative that designers - engineers and architects, for example - be able to function just as effectively as though they were collocated.

In addition to an ability to exploit the latest in communication technology, there are interpersonal and team dynamics involved. (Published elsewhere)

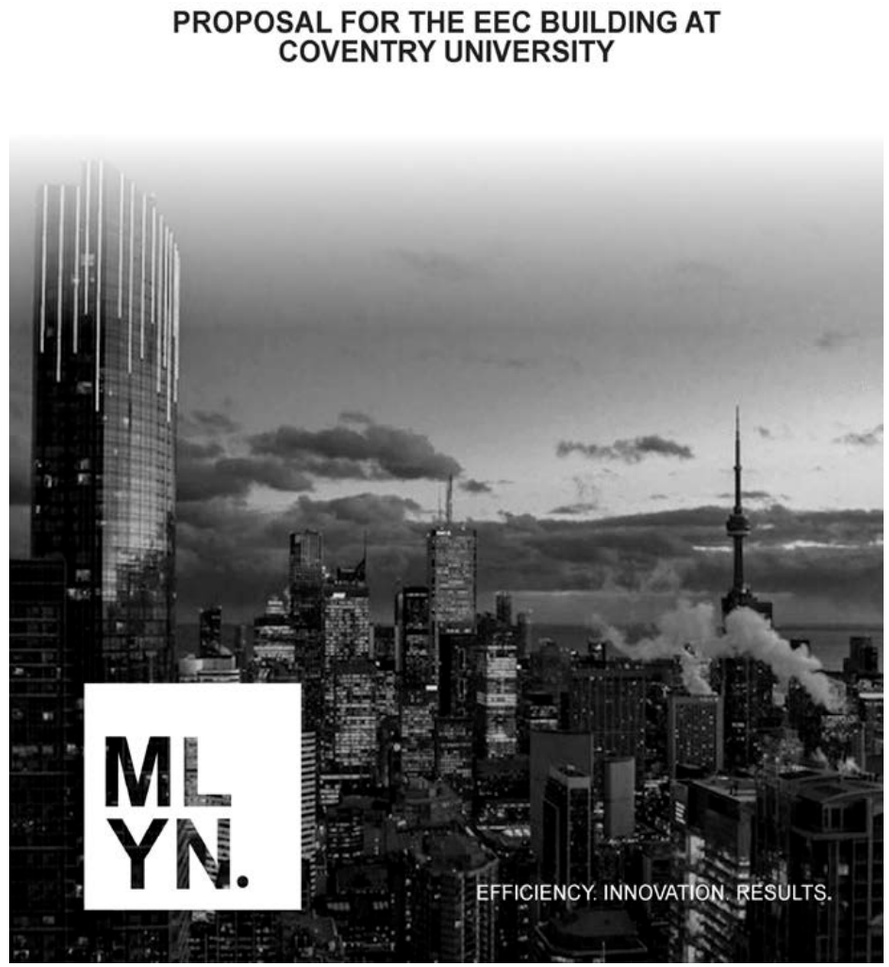
The Project

Students form project Teams to response to a Request For proposal (RFP). A typical project team - 2 architectural science students from Ryerson University plus 2 civil engineering students from Coventry University.

Project designed to require maximum interaction among team members. Over the years, has been an Addition & Alteration to an existing academic building located in the United Kingdom..

Proposal include, in addition to architectural and engineering drawings, a cost estimate, time schedule from inception to completion, method statement with a focus on heath and safety consideration and an environmental report.

At the end of each, students were asked to reflect upon their experiences on the collaboration. Their feedback and the challenges we faced in this collaboration form the main substance of my presentation today. They are not research in itself.



The Intent

To equip our graduates with an ability to work collaboratively with distant peers peers across a geographical divide within an online environment.

- Have empathy for other disciplines.
- Experience in interactions with other disciplines
- Learn the practices of another jurisdiction
- Competence in communication technology

Teaching Pedagogy

Relatively small studio setting during prescribed hours. Requires additional hours outside prescribed hours.

Students make use of knowledge from pre- and co-requisite course . Also requires additional relevant information which they must research. Additional instructions also provided from time to time.

Project modelled very closely to industry practices. BIM-enabled portal for all common information and communication.

Students use GoToMeeting, and other mediums such as Drop Box, emails, etc.

We believe this self-directed approach also encourage co-operative learning and provide a sense of individual fulfilment.

Some Challenges Faced

Requires commitment and support from the institutions.

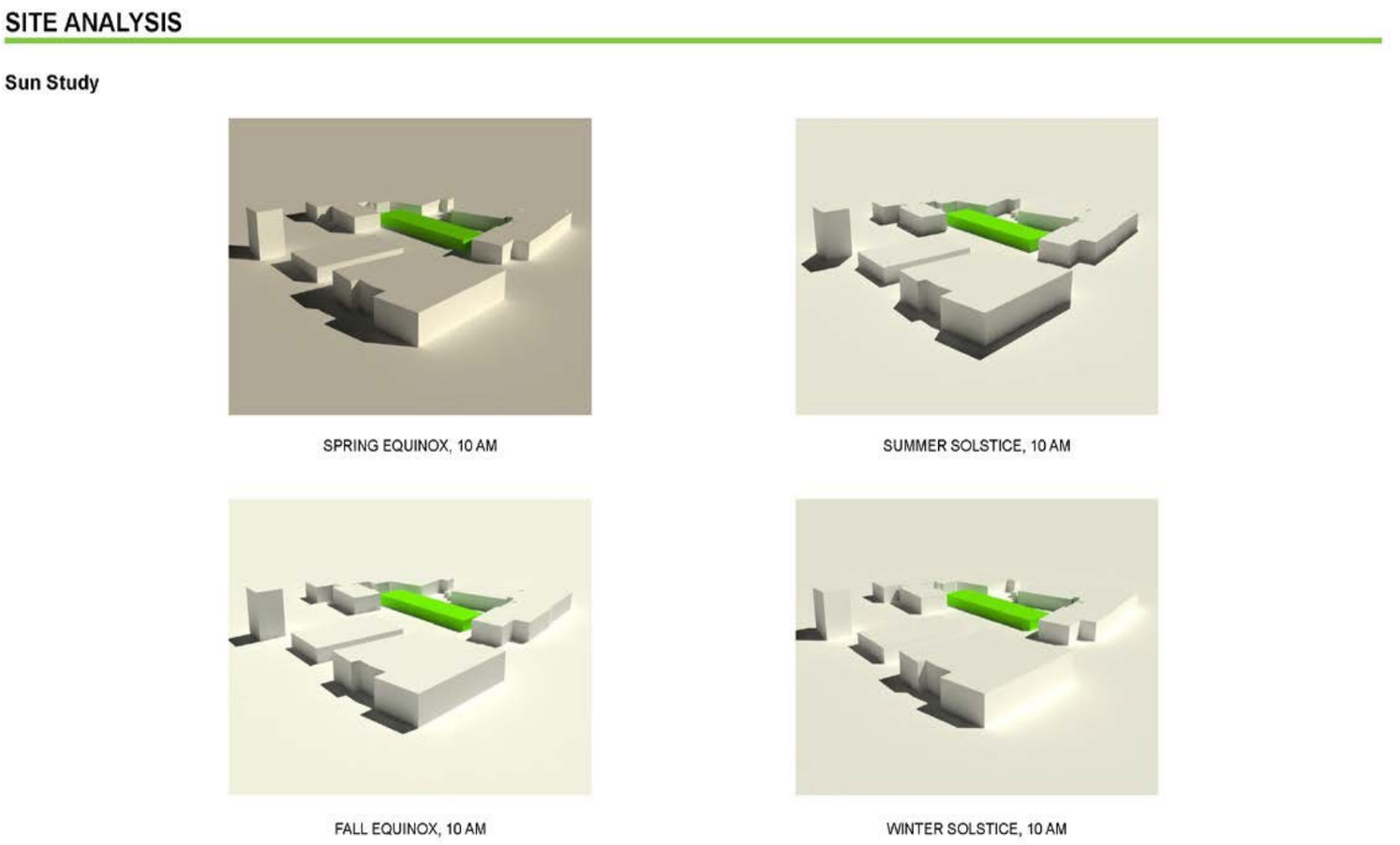
High level of co-operation and communication among faculty members.

Grading scheme, semester periods, time

difference Need to acknowledge that not

all teams will

work successfully together.



Student Feedback

Requires additional task such as allocating responsibilities and file sharing protocol.

More effort compared to working with own classmates – scheduling meetings and work sessions.

Some students not contributing adequately, missed meetings and working sessions, substandard output, etc.

Collaboration provides them an opportunity for social and professional development within the safety of a school environment.

Realization that their training can influence their approach to a particular issue.

Project provided them an experience that was close to the real world. Importance of teamwork

Concluding Remarks

Completed 9 years.

Many students began with some apprehension
– working with peers whom they do not know

Not all teams were successful

Students get to know the industry practices of another country. Useful in an increasingly globalized world.

Acknowledgements

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- Faculty of Engineering And Architectural Science, Ryerson University
- Faculty of Engineering, Environment & computing, Coventry University

Thank You!

Questions?