

Waterloo ExL Community of Practice: Interdisciplinary-Based Learning

Thursday, November 22, 2018

Location: EV3 4327

Hosted by: Wayne Chang and Jennifer Lynes

SUMMARY

Opportunities

- Problem driven, not department driven
- Creating digital communities by connecting history and computer science students
- Generate an inflow of problems from other disciplines, then students can work on solutions
- Example: Rob Gorbet course that involves 10 engineering students and 10 sculpture students
- AI: important opportunity for interdisciplinary so we're not looking at it just from the tech point of view – involve students from social sciences and philosophy to look at the ethics and engineering and math students from biodata course
- Have student outputs that are portable → spread out over time
- Understand why disciplines are important, what can students learn from working together
- Bring students to the problem → get them out of the classroom to see a real problem, the need for interdisciplinary becomes more apparent if not obvious and necessary
- New model: evaluate on the process, have students understand it's ok to fail
- Failure analysis reports

Barriers

- Interdisciplinary-based learning is most effective when co-taught – but this has barriers
- Siloed by cohort or program
- Program requirements may not allow for it
- Classroom set up – can students move around, or are they stuck in lecture format
- Confidence of students to branch out
- Course size
- Different evaluation metrics in different courses or across disciplines

Introductions and sharing interdisciplinary courses

[Rob Gorbet](#) – Knowledge Integration

[INTEG 375](#), Special Topics in Knowledge Integration: Technology Art Studio, an upper-year elective course in which interdisciplinary teams of students collaborate to create and exhibit works of technology-mediated sculpture.

[Suzanne Kearns](#)- aviation

Aviation seen as interdisciplinary, has used Riipen

Colleen McMillian – Social Work

Teaches interdisciplinary course now that is half Social Work and half Pharmacy

Wayne Chang – Conrad

Startups that are successful are interdisciplinary!

Sean Geobey – SEED

Has had interest from students and community but not other disciplines

Jennifer has fourth year seminar class that is interdisciplinary, integrated assignment in planning

Brendan Larsen – has success integrating within the department, looking to nurture more relationships across the university

Dan Murray – looking find other capstone course instructors

Rob de Loe - Collaborate water program that involves 11 departments

Brainstorm Two Themes: project based (capstone) that are interdisciplinary and courses that are focused on a specific theme (aviation), how do we make them interdisciplinary

Kathy – interested in environmental scan of what people are teaching and learning

- UW collaborates, survey of students and instructors on campus = collaborative skills contract
- What is being done on collaborative skills, such as group contracts and conflict resolution

Suzanne

- [SSO five minute skills for first year class](#)
- Where else can students learn collaboration?
- Sean: SSO is piloting this with ENG

Dan

- Jenn asked if he included collaborative skills (i.e. group contract) in his capstone
- Yes – but not fail proof but help students put the pieces back together

Jessica

- Some seem like natural fits – if history students need a technical element, working with CS students
- Opportunity to design a course that is a digital community

Bill

- ENG inter-faculty interdisciplinary
- There used to be some branching out in the capstone
- Students have the skills but don't have the crux of the idea to pursue and then work on
- Trying to get an inflow of problems to solve from other disciplines, identifying problems the technology can solve

Jenn

- Eco car competition, there was friction in the roles and expertise

Rob

- There is a thirst in ENG

- 10 sculpture students, 10 ENG, there is waiting list if 50 ENG students waiting to get in, constraint is the # of artists – what the solution, finding other creatives?
- Finding capstones, but there are diff evaluation metrics
- These courses are most effective when they are co-taught = questions of credit
- Talk right now on AI, ethical tech, important opportunities to bring in PHIL, SOCSCI together to ask the ethical questions

Dawn

- Big data analysis course ENG and MATH wasn't able to be done
- There was the desire but didn't happen

Sean

- Student output being more portable is better
- The way we think about it is take students together and shove them together
- What about across terms – PHIL students find the problems and next term ENG solve it
- Doesn't have to be simultaneous

Rob de Loe

- Workplaces have problems, uni has depts.
- The solution looking for problem model
- It's astonishing how little people care in the real world about disciplines
- This is why the collaborative water project works – it has to be interdisciplinary
- Understand and appreciate why there is interdisciplinary – we want bridges built by civil ENG
- Mixed approached – understand strengths and gaps
- Jenn asked – is there an example? Register in home program
- Put everyone in the class and mix everyone up OR take everyone to the world where the problems are – they understand that the solution can only be reached if they work together, the message hits home. An ENV student may never be an ENG, but how can she use the value of what ENG has to offer?

Dan

- We're an entrepreneurial university, have to get this into students mind
- Wayne – we can do this because of our IP laws
- The process of EL – doesn't matter if you fail, but our evaluation is on the work
- Rob G, project based work 8 month course, by month 6 if it's not working then write a fail report

Kathy asked Rob de Loe

- Her model is working well, what's the issue with what Rob is doing?
- 80% of the grade is process – reflection, group contracts

Umair

- Interdisciplinary in online class
- Fourth offering realized that the contract worked against his students, less of the blame game, more engagement

- Believing that you could be creating a barrier
- For this other course, he integrates more of an interdisciplinary mindset looking at different stakeholders

Suzanne

- UW start-ups – students solving student problems, when they can identify the problem they can work to find the solution
- Aviation – competency based training. Looking at the curriculum and recognizes that they didn't know why they were teaching certain aspects
- Recognized that lecturing doesn't work to solve these problems, have to find new ways