Gathering Together: Engaging Students with Remote Access to Live Lectures

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Outline

- ENGG 2450: Electric Circuits Summer 2014
- Remote Access to Live Lectures
  - Demo!
- Student Survey
- Highlight of Results
- Interesting New Questions
Summer Circuits in the SOE
(ENGG 2450: Electric Circuits)

What makes summer circuits so special?
ENGG 2450: Electric Circuits (a.k.a. Circuits)

- 2nd Year core U of G engineering course
  - Required course for all 7 programs
  - Prerequisite to many additional core courses

- Traditionally a single offering with ~400 students

- Reputation of being a “tough” course
New Summer Circuits

- First offered in Summer 2014
- Only summer offering of an undergraduate class in the SOE
- Primarily offered as remedial class
- Majority of students not in Guelph
  - Co-op jobs or other reasons
- 75 students enrolled
New Lecture Style: Things we did ‘differently’

- Simultaneous live (in-class) and remote (live webcast) lectures
  - About 10-20 in-class, 30-40 online
  - Used Adobe Connect to webcast lectures

- Live online chat during lectures
  - Posted on screen so in-class attendees can see
  - Monitored by instructor who responds verbally to questions
The Remote Experience

- Hear only instructor’s voice (can’t hear classmates)
  - No video of instructor

- See what is written on the projector
  - Live writing, not static slides

- Live contact and active learning via chat
  - Ask questions, respond to instructor’s questions/prompts, or ‘talk’ to friends
Demonstration

http://uoguelph.adobeconnect.com/engg2450/
Tips & Tricks

- Tablet with handwriting software (I use a Surface and Windows Journal)
- Repeat in class questions and answers so remote students can hear
- Be patient while students are typing
- Practice with the tech first and be good-humoured about tech failures (you will have at least one!)
Your feedback?

Initial thoughts and questions?
The Survey

What we asked and who responded
Survey Question Categories

- **Attendance & Workload**
  - Type of lecture attended
  - Time spent on course

- **Course Delivery**
  - Style, scheduling, likes, dislikes

- **Employment**
  - Job commitments & accommodations
  - Commuting

- **Past Attempts**
  - Success in prerequisite course and circuits
Survey Response

- 46 of 75 students responded (> 60%)
  - 4 responses removed: incomplete survey or incomplete grades
- 42 responses used to aggregate results
- Used final grades to correlate results
  - Respondents final average in line with overall class average (~65%)
And the Survey says....

Some surprising results
Class Attendance & Final Average

- Higher grades correlated to higher attendance
  - Final Average:
    - > 75% Attendance: 70%
    - < 75% Attendance: 50%

- Remote accessibility lead to increased attendance
  - Students attended remotely given the option
  - May not have attended otherwise
Remote vs. Live Attendance

- **Proportion of Attendance:**
  - 23% Live, 77% Remote

- **Grades essentially equal**
  - No academic effect

- **More convenient**
  - Lectures attended off-campus
  - Some students on-campus but preferred remote attendance
  - Some students found remote attendance less distracting
Online Chat – Important Feature

- **Positives:**
  - Very beneficial
  - More interactive for remote attendees
  - Questions could be asked anonymously
  - Students responded to questions

- **Negatives:**
  - Requires monitoring
  - Some comments frivolous
  - Questions can be lost
  - In-class questions not easily communicated to remote attendees
Overall Effects on Learning

- **Positive:**
  - Remote access
  - Course organization
  - Tutorials
  - Only one course
  - Motivation for passing

- **Negative:**
  - Work/School/Summer balance
  - Lack of collaboration (off-campus)
  - Online distractions
Still more questions...
Future Studies

- How effective is the remote/live lecture style for large(r) classes?

- Benefit of recorded lectures:
  - Will attendance change?
  - What effects will it have on learning?

- Social Isolation:
  - Will students remain at home if given the option?
  - How important is social interaction within lecture?
In summary....
Should the SOE offer more summer courses with the same local/remote delivery style?

YES! 100%

No 0%
Thanks!

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Recorded Lectures

- Students were told not to record lectures - some students did anyway
  - Average of students recording lectures $\sim10\%$ higher than class average

- Reviewing of lectures main benefit
  - Lectures reviewed once or twice

- Many students recommended lectures be recorded in future
Work Commitments

- Many students had full time jobs – mostly co-op positions
- Essentially no effect on grades
- Employers were generally accommodating
  - Flexible lunch schedules
  - Time off for exams
- Students challenged with balancing work responsibilities and course work
  - Work often top priority

Summer Employment

- Yes: 74%
- No: 26%
More Summer Offerings?

- YES!
- Keeps students on track
- Allows transfer students to finish earlier
- Requires change in study habits
- Which courses?
  - Courses with high failure rates
  - Critical prerequisite courses

Offer More ENGG Summer Courses?

- Yes: 95%
- No: 5%